Agriculture Canada

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# GROWING DEGREE-DAYS AND CROP PRODUCTION IN CANADA

TABLE FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 10°C

| | CLASS FREQUENCY AND BOUNDARY | | | | | | |
|---|---|---|---|---|---|---|---|
| | RECORD LOW MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
| | 0 | 0 | 0 | 0 | 1 | 7 | 1 |
| | 0 | 0 | 0 | 1 | 4 | 10 | 1 |
| | 0 | 0 | 0 | 2 | 2 | 34 | 3 |
| | 0 | 1 | 2 | 6 | 12 | 36 | 6 |
| | 1 | 2 | 8 | 10 | 17 | 39 | 0 |
| | 4 | 6 | 12 | 21 | 32 | 49 | 19 |
| | 7 | 14 | 23 | 35 | 54 | 62 | 31 |
| | 11 | 27 | 39 | 54 | 67 | 87 | 48 |
| | 15 | 52 | 69 | 81 | 99 | 126 | 73 |
| | 34 | 75 | 91 | 104 | 137 | 164 | 102 |
| | 77 | 103 | 120 | 136 | 177 | 206 | 134 |
| | 107 | 139 | 156 | 180 | 228 | 267 | 175 |
| | 145 | 181 | 211 | 233 | 266 | 316 | 223 |
| | 218 | 233 | 271 | 288 | 321 | 375 | 279 |
| 8 | 271 | 287 | 319 | 346 | 390 | 440 | 335 |

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## FOREWORD

In 1959, the Canada Department of Agriculture released the publication entitled *Heat Units and Crop Growth*, which proved to be extremely popular and was reprinted several times.

The authors, R. M. Holmes and G. W. Robertson, reviewed the concept of "heat units" or "degree-days" and introduced a generalized formula for computing normal degree-days based on mean monthly temperatures. The publication included several practical applications of degree-days, showing how long-term climatic data can be used in day-to-day agricultural operations. Many of these applications have been included in the revised text, because they so aptly demonstrate the degree-day concept.

The theory that a direct relationship exists between temperature and the rate at which a plant grows and develops is not new, but it remains viable. So do the methods for defining this relationship quantitatively. For this reason, the decision was made to update the original publication using the climatic records for the current 30-year period. Another purpose is to introduce the Celsius temperature scale in the calculation and application of degree-days. We hope that the revised presentation proves to be as useful as the original, and equally applicable to the present-day agricultural scene in Canada.

# GROWING DEGREE-DAYS AND CROP PRODUCTION IN CANADA

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## INTRODUCTION

Plants require energy to grow and develop, and some of this energy is in the form of heat. The heat required is expressed as degrees of temperature. Many meteorological elements influence the well-being of a plant, but temperature is the single most important factor contributing to plant response. Because of this fact, and because information on air temperatures is readily available, many attempts have been made to link plant response to some function of temperature.

Thus the concept of degree-days or heat units has evolved, and it is now widely accepted as a means to relate plant growth, development, and maturity to temperature. The concept assumes that each plant has its own particular base or threshold temperature below which growth does not occur. The amount of heat accumulated during the day, as obtained by subtracting the plant's base temperature from the mean temperature for the day, is termed the degree-day accumulation. Degree-days may be accumulated for a week, for a month, or until plant maturity is reached.

## TEMPERATURE

Most agricultural crops grow in conditions where the temperature fluctuates widely. Cool nights and warm days are usually favorable to crops. For example, certain varieties of tomatoes set fruit only when the night temperature is near 18°C. Consequently, these tomatoes are not grown commercially in the tropics where



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nights are usually warmer, or in the field in northern areas where night temperatures are too cool. Tomato yields are reliable in areas where maritime-type conditions keep temperatures consistently in a favorable range during the growing season. In other areas, production may be very variable.

Peas do best when daytime temperatures stay below 27°C; above 30°C, growth is markedly poorer.

Onions flower only under low night temperatures, but higher temperatures are required for other growth processes.

Potatoes set tubers best when temperatures during the night fall to between 10° and 14°C. Therefore, more northern regions like the Maritimes, northern portions of the United States, and Ireland are best suited to potato production.

Temperature regulates many of the physical and chemical processes within a plant, which in turn control the rate of growth and development toward maturity. Certain temperatures are considered critical to the well-being of the plant and these include minimum, maximum, and optimum values. The maximum temperature for plant life is about 54°C and the minimum temperature for growth is about 5°C. However, these values vary according to the particular cultivar, the stage of growth, and the conditioning of the plant. In plants of the temperate zone, the optimum temperature for seed germination is usually less than the temperature most suitable for growth, which in turn is often lower than the temperature most suitable for flowering and fruiting.

It may be difficult to see how any relationship could be formulated to express the overall growth of a plant from planting to maturity. However, chemical and physical processes, such as the chemical reactions that increase their rate as the temperature increases, are subject to the same laws whether they take place within a plant or elsewhere.

## OTHER ENVIRONMENTAL FACTORS

Several other environmental factors influence the growing degree-day relationship and may cause variation within a crop. They are described below.

### Soil fertility level

Low soil fertility causes slow growth. A high nitrogen level supports heavy stem growth and thus delays maturity. A high phosphorus level tends to hasten maturity.

### Plant population

A low plant population matures slightly earlier than a denser population, provided weeds do not make up the difference.

### Soil type

Sandy soils warm up earlier than clay soils. Other factors such as the fertility status and moisture characteristics are associated with soil type.

### Soil temperature

During the spring warm-up, soil temperature lags appreciably behind air temperature. Hence, if degree-days are accumulated on the basis of air temperature, the resulting totals may be too high. Soil temperature readings can be used instead, until plant emergence. Southern slopes warm up sooner in spring than northern slopes. Seeds planted deep are cooler and usually emerge later than those planted shallow, provided moisture is not lacking.

### Soil moisture

Poorly drained soils are cold and also give rise to a variety of nutritional problems. If moisture is lacking at seeding time or during early growth, maturity is delayed even though the number of degree-days has been building up. Drought during the latter part of the life span of plants usually hastens maturity, or the plants may even die before they reach maturity.

### Photoperiod

Regional variation in a particular crop is usually attributed to variation in the length of photoperiod (day length). Longer periods of daylight reduce the heat requirement of many crops, particularly those that thrive in cool weather. However, degree-day accumulations seem to provide fairly accurate guidelines without adjustment for photoperiod at any one location, because daylight hours do not vary much during the life span of most crops in the temperate zone. In other zones or fringe areas in the north, the duration of daylight may have to be considered. Some plants mature more rapidly in the north where days are long in the summer than would be expected from temperature accumulation alone.

## USES OF THE DEGREE-DAY CONCEPT

Despite limitations, the growing degree-day concept is effective and is often used by growers and processors to schedule planting and subsequent harvesting of many cash crops, particularly peas, beans, and sweet corn. The concept provides a reliable index of the progress of these crops. Information on degree-days can be used to predict the yield and oil quality of soybeans and other legumes. It helps to identify the limits of geographical areas suitable for production of various crops, particularly corn, and to evaluate areas agriculturally suitable for new or non-native plants. Other

applications of degree-days include the prediction of bloom date, tree fruit development, and insect activity related to agriculture and forestry.

Because we are adapting the metric system of measurement in Canada, all data values, tabulations, and graphs are based on the Celsius temperature scale. Previously calculated Fahrenheit degree-day accumulations could be converted by multiplying them by 5/9, but it would not be helpful to do so. The old and new data series cannot be directly compared because they are not exactly equivalent. For instance, 5°C has replaced 42°F (5.556°C) as a base value. Therefore, it is better to recompute growing degree-days from the original observational data.

## COMPUTATION OF GROWING DEGREE-DAYS

Temperature affects plant processes mainly by controlling the rate of growth. It may prevent growth from taking place at all. There are certain minimum temperatures below which plants do not grow, and the actual minimum depends on the particular plant involved. For general plant growth, a base or threshold temperature of 5°C is probably most valid; however, many crops have been assigned their own base or threshold values. The values have been determined by experiments and field trials; some average values are given in Table 1.

**TABLE 1. AVERAGE BASE TEMPERATURE VALUES FOR SELECTED CROPS**

| Crop | Base temperature °C |
|---|---|
| Spinach | 2.2 |
| Lettuce | 4.4 |
| General plant growth | 5.0 |
| Peas | 5.5 |
| Asparagus | 5.5 |
| Corn | 10.0 |
| Beans | 10.0 |
| Pumpkins | 13.0 |
| Tomatoes | 13.0 |

In practice, the concept of growing degree-days assumes that plant growth is related directly to the average daily temperature. It ignores soil temperature, difference in the pattern of night and day temperatures, and other variations caused by the stage of

growth. The degree-days for each day are added together, or accumulated, throughout the growing season. To compute growing degree-days for a particular crop on a particular day, you first calculate the daily mean temperature by averaging the maximum (highest) and the minimum (lowest) temperatures for the day. Then you subtract the specific base temperature for the crop or plant in question from the mean temperature. This gives the number of growing degree-days for the 24-hr period.

Example:

Maximum temperature (°C): 30
Minimum temperature (°C): 18

$$\text{Mean temperature (°C)} = \frac{\text{Max.} + \text{Min.}}{2} = 24$$

Growing degree-days at base 0°C = 24 − 0 = 24
Growing degree-days at base 5°C = 24 − 5 = 19
Growing degree-days at base 13°C = 24 − 13 = 11

If the daily mean temperature is equal to or less than the base temperature, the degree-day value is zero. Negative values are not used in the calculation, because little or no growth takes place on days when the average temperature is less than the base temperature for the crop.

The number of degree-days a crop normally takes to mature depends largely on the plant and the variety being grown. A particular plant or variety may have a rather specific requirement for total heat accumulated through the growing season to reach maturity. This amount is called the heat maturity constant (HMC); it is also referred to as the summation constant, the varietal index, or the remainder index. The corn hybrids frequently grown today need from 800 to 1800 degree-days (their maturity constants) to produce 30% kernel moisture at maturity.

Although the concept is not without problems, the accumulation of growing degree-days is a more precise way of predicting crop maturity than simply counting the passing days. If you have a week of mean temperatures below the base value, your crop is not growing, and so it is not a week nearer to maturity. Similarly, on days when temperatures exceed the maximum growth value, transpiration becomes too high and the resulting moisture stress to the plants delays their growth.

Data on degree-days or their seasonal accumulations are often difficult to obtain, so researchers have used long-term climatological records to work out relationships between mean temperatures and degree-days. The relationships can be universally used to calculate degree-days above any base temperature. One such

formula provides an estimate of the normal number of degree-days accumulated for any one month; the equation is as follows:

$$DD = N\ [\ (t-b) + L\sigma\sqrt{N}]$$

where DD is the normal degree-days for the month, $N$ is the number of calendar days in the month, $t$ is the monthly mean temperature, $b$ is the base temperature, $\sigma$ is the standard deviation of the monthly mean temperature, and $L$ is the proportionality coefficient. The standard deviation expresses the probable variation of the monthly mean temperature from the long-term normal value.

Although DD is a monthly value, daily values can be obtained by plotting the calculated monthly values at the midpoint of each month, and joining these points. The daily values can then be read off the graph. For this method, both the monthly mean temperature and the standard deviation of the mean are required for the calculations. Ordinarily, this type of information can be readily obtained from published climatological data. The values for the proportionality coefficient $L$ are obtained from the table given in Appendix I.

Several variations of the growing degree-day concept have evolved over the years, each one attempting to calendarize crop growth and development. One of the most widely used in Canada is the corn heat unit (CHU). A physiological type of index, it accumulates heat units or degree-days from the average date in the spring when a mean temperature of 12.8°C occurs to the date when there is a 10% chance of a 0°C freeze in the fall. The index itself uses the following equation for calculating the heat or degree-day units:

$$CHU = \frac{1.80\,(T_{MN}-4.4) + 3.33\,(T_{MX}-10.0) - 0.084\,(T_{MX}-10.0)^2}{2}$$

where the values for $T_{MN}$ and $T_{MX}$ are the average minimum and maximum temperatures for the day.

## DISCUSSION AND APPLICATION OF GROWING DEGREE-DAYS

Long-term temperature records can be used to estimate heat accumulation so that the probable date of maturity of a crop can be predicted. On a graph, the curve for normal growing degree-day (GDD) accumulation based on these records is a gradual one; it is nearly flat in the spring during cool weather and rises more sharply during the summer when heat is rapidly accumulated (as illustrated by the graphs in this publication).

To predict the harvest date of an individual crop, the normal GDD accumulation curve is used starting from the day of planting. The expected harvest date may have to be adjusted as the season

progresses, if the temperature through the growing season varies from normality. In that case, the actual daily temperatures are used to compute the heat accumulation up to the day when the calculation is being done, and the normal curve is then used for the remainder of the season. A surplus or deficiency of degree-days either hastens or delays the harvest from its predicted date.

For example, suppose you plant a cash crop in the Ottawa area on May 15 (Fig. 1). The crop planted has a base temperature of 10°C and requires 1050 GDD to reach maturity. On the graph

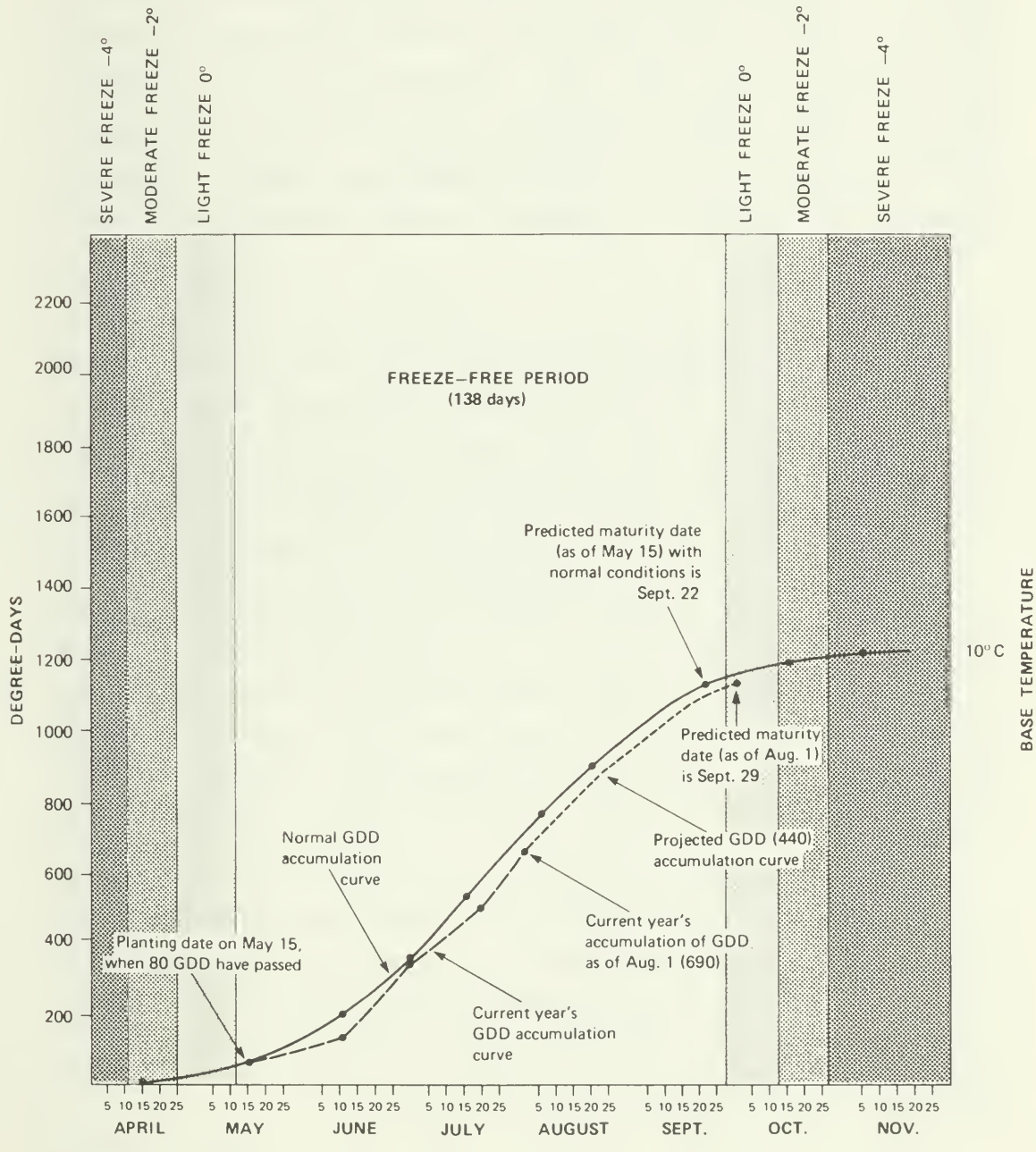



Fig. 1. Application of average seasonal growing degree-day accumulations (10°C base temperature) and average freeze dates of a given severity for Ottawa.

for the Ottawa area you follow the curve for the 10°C base temperature starting at May 15, when 80 GDD have elapsed, for a further 1050 GDD (to the point on the curve at 1130 GDD). This brings you to a predicted maturity date of September 22 if conditions are normal. However, if at midseason, say August 1, you wish to verify your original estimate, you must total the number of growing degree-days actually accumulated to August 1 from the planting time of May 15. In our example (Fig. 1) this value, 660 GDD, is slightly below the normal for August 1, which is 720 GDD. Starting at 660 GDD on August 1, you draw a line parallel to the normal seasonal accumulation curve, continuing for a further 390 GDD to reach the required 1050 GDD from the time of planting. (The point on the graph is again 1130 GDD, because of the 80 GDD elapsed before planting). This brings you to a new maturity date of September 29. The new date is 7 days later than originally predicted, and conditions are now becoming hazardous to the crop because there is a 50% chance of a freeze on or after September 28 in the Ottawa area.

It is difficult to plant a series of fields so that the whole crop does not mature at the same time. However, if planting is done in proportion to degree-day accumulation, a fairly orderly harvest can be arranged. If the normal daily heat accumulation at harvest is 20 GDD, and the capacity of the cannery at harvest is 24 ha/day, then the ratio of heat accumulated at harvest to the number of hectares harvested a day is 20:24, or 1:1.2. (*For calculations in acres, if the cannery capacity is 60 ac/day, the ratio is 20:60 or 1:3.)* Therefore, after the accumulation of each degree-day at planting time, 1.2 ha *(3 ac)* should be planted; after 10 degree-days have accumulated, 12 ha *(30 ac)* may be planted. Strict adherence to this ratio, however, might result in serious delays in planting during a cool spring. In that case, more fields would have to be planted than warranted by the heat accumulated. The method would forecast the time when a heavy influx of crops would occur at the cannery.

If several fields scattered over an area were planted with peas on the same day, they would not all mature at the same time. Experience has shown that harvest would normally be spread over 2 or 3 days because of the environmental factors previously mentioned. Therefore, it is common practice to plant two or three times as many hectares on the first day as would normally be done according to the degree-day accumulation.

Let us suppose four varieties of peas are to be planted; each covers a different area and has a different heat maturity constant, as follows:

| Variety | Area ha (*ac*) | HMC (°C) |
|---|---|---|
| Alaska | 160 (*400*) | 680–710 |
| Sweets | 80 (*200*) | 720–750 |
| Perfection | 120 (*300*) | 830–860 |
| Superior | 120 (*300*) | 890–920 |

Assume that the normal daily heat accumulation at harvest time is 20 degree-days and that the cannery has the capacity to process 16 ha (*40 ac*) of crop a day. The planting ratio is 16 ha (*40 ac*) for every 20 degree-days accumulated, or 0.8:1 (*2:1*). Because 160 ha (*400 ac*) of Alaska peas are desired, the planting would normally be spread over 200 degree-days. However, the heat maturity constant varies between different fields, so three times the normal area should be planted during the first 20 degree-days accumulated. Thus, 48 ha (*120 ac*) of Alaska peas are planted during the first 20 degree-days and 112 ha (*280 ac*) during the next 140 degree-days. The last 112 ha (*280 ac*) are planted according to the normal planting ratio.

After the accumulation of 680 degree-days, the first Alaska peas enter the cannery and the crop continues to come in for 10 days, because the crop is on 160 ha (*400 ac*) and the capacity of the cannery is 16 ha (*40 ac*) a day. Two hundred degree-days normally accumulate during the 10-day harvest. The total degree-day accumulation from the first plantings to the last harvest of Alaska peas then is $680+200=880$.

At this time, early Sweets peas must be ready for harvesting. They require 720 degree-days to mature, so planting must begin $880-720=160$ degree-days after the first Alaska planting. Because 80 ha (*200 ac*) are required and the planting ratio is 0.8:1 (*2:1*), planting is distributed over $80/0.8$ ($200/2$)$=100$ degree-days. The time required for processing is determined by the variation in degree-days to maturity of the peas, rather than cannery capacity. Late Sweets peas require 750 degree-days to mature, so the processing time of Sweets from earliest to latest is extended by $750-720=30$ degree-days. Therefore, total heat accumulation from first planting of Alaska peas to the last processing date of Sweets is $880+100+30=1010$ degree-days.

At this time Perfection peas must be ready for processing. The same calculations as for Sweets peas are performed to obtain the planting and processing times for Perfection peas, and again for Superior peas.

After some experimenting and adjustment for local peculiarities, the degree-day theory can be a reliable tool for both farmers

and processors. This theory is not meant to replace any practice already in use in field operations. It is rather an attempt to express mathematically the influence of temperature on crop growth. Many commercial canners have found this method of scheduling plantings very useful.

The heat maturity constant (HMC) (the number of growing degree-days from planting to harvest) is often difficult to find out for specific crop varieties. It is hoped eventually that all companies will put the HMC value on the seed tag or package. This practice is common for hybrid corn varieties.

Growing degree-day data for 11 stations across Canada are presented in both tabulated and graphic forms, in Tables 2-32 and Figures 2-12. The tabulated data have a particular format that requires some explanation. Data collected over 30 years, 1941 to 1970 inclusive, have been arranged in a frequency table. The tables consist of six columns that indicate ranges or "octiles" and one column that gives the average or mean value for the week ending on the date specified. The first column, designated by Record low, gives the lowest number of degree-days ever recorded during the 30-year period; similarly, the sixth column gives the highest number of degree-days ever recorded.

Columns 2, 3, 4, and 5 are referred to as the first, third, fifth, and seventh octile. This means that if similar conditions prevail in the future, one could expect values below the first octile to occur one-eighth of the time, values below the third octile, three-eighths of the time, and so on.

Other information can be derived from the tables. Each interval between two columns (the spaces under the headings MB, B, Normal, A, and MA) gives a range of degree-day values. The first range is designated MB, for much below normal; it is followed by range B, for below normal; range Normal; range A, for above normal; and range MA, for much above normal. All ranges except MB and MA each contain one-quarter of the total range of values; ranges MB and MA each contain one-eighth. Such a system enables the grower or farmer to compare the current growing season with a normal season and determine just how late or early are the present growing conditions.

For example, the following information was taken from Table 23 for Ottawa and shows the normal distribution of degree-days for the week ending August 5. The base temperature is 5°C.

| Record low | MB | B | Normal | A | MA | Record high | Mean |
|---|---|---|---|---|---|---|---|
| 1055 | 1162 (1st octile) | 1227 (3rd octile) | 1300 (5th octile) | 1374 (7th octile) | | 1502 | 1266 |
| | Range MB (much below normal) | Range B (below normal) | Range Normal | Range A (above normal) | Range MA (much above normal) | | |

Thus, if the accumulated growing degree-days for August 5 are said to be a record high, or another such designation, then the meaning, in terms of degree-days and likelihood of occurrence, is as follows:

Record high — the value is equal to or greater than 1502

MA (Much above normal) — the value is greater than 1374 but less than 1502, and should occur one-eighth of the time

A (Above normal) — the value is greater than 1300 but equal to or less than 1374, and should occur one-quarter of the time

N (Normal) — the value is equal to or between 1227 and 1300, and should occur one-quarter of the time

B (Below normal) — the value is less than 1227 but equal to or greater than 1162, and should occur one-quarter of the time

MB (Much below normal) — the value is less than 1162 but greater than 1055, and should occur one-eighth of the time

Record low — the value is equal to or less than 1055

Mean — the value is the average or arithmetic mean for the 30-year period

Although a few growing degree-days accumulate before the month of April, no direct contribution is made to the beginning of growth in early spring. Consequently, the tabulated accumulations are given only for those months normally considered to be part of

the growing season in Canada. This period extends from April through to the end of October.

In the graphic presentation of accumulated growing degree-days, curves are shown for three of the most commonly used base temperatures, 5, 10, and 13°C. By plotting the growing degree-days for the current season, as derived from local temperature data, you can evaluate the current season's progress in relation to the normal or expected temperature pattern. Similarly, comparisons can be made between geographical areas that may each be characteristic of a particular climate in a certain region of Canada. Such climates may reflect, individually or in combination, the modifying effects of large areas of land or water and latitude. For example, Harrow, Ont., and Beaverlodge, Alta., exhibit quite different climates. Although the difference is mainly a result of latitude, the proximity of water, the air drainage pattern, and the soil type also influence the particular temperature regime and this in turn determines the availability of growing degree-days.

In addition to the availability of growing degree-days, the length of the freeze-free period influences the crop production of a region. This period is defined as the number of calendar days from the average date of the last freeze (0°C) in the spring to the average date of the first freeze (0°C) in the fall. The days of the last spring freeze and the first fall freeze are not included in the total freeze-free period because they are days with a freezing temperature.

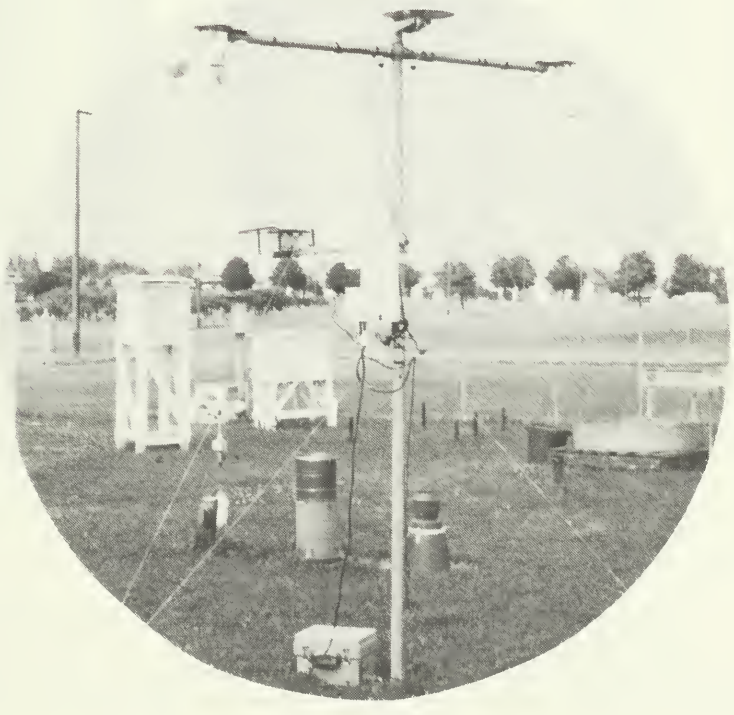
The average dates of the last spring freeze and the first fall freeze at three levels of severity, light (0°), moderate (−2°), and severe (−4°C), are also given on the graphs of accumulated growing degree-days for each of the 11 stations. These dates provide the user with additional insight concerning the risk of a freeze in the particular region.

A large difference exists between the freeze-free periods at the various stations; for instance, Sidney, B.C., has an average freeze-free season of 230 days whereas Beaverlodge, Alta., has only 108 days. It should be noted that although the freeze-free season may be longer, the accumulation of growing degree-days is not always correspondingly higher. Ottawa, Ont., has a short season of 138 days compared with Sidney, B.C., which has a 230-day season. However, the accumulated growing degree-days (base 5°C) in Ottawa are seasonally more than 2000, whereas at Sidney they are seasonally less than 1900. This explains why a "heat-loving" crop such as corn does not produce grain particularly well in a maritime type of climate such as that found in the coastal region of British Columbia.

Although the growing season is usually assumed to be the same length as the freeze-free period, the true growing season can be defined as the number of days in a year in which a crop can grow. In general, plant growth begins and ends at a threshold temperature of 5°C, so the growing season can be defined as the number of days between the first time that a mean daily temperature of 5°C occurs in the spring and the last time a mean daily temperature of 5°C occurs in the fall. The direct measurement of the length of the growing season is extremely difficult because of biological factors; such matters as the type of cultivar, stage of development, and resistance to low temperature must be considered. Therefore, a purely meteorological definition of the growing season is incomplete and should be used with caution in agroclimatic descriptions.

## ACKNOWLEDGMENTS

This work is based on the climatological records compiled by the Atmospheric Environment Service, Department of the Environment. A special thanks to those weather observers who diligently observe and record the daily weather. Without such long-term observations, publications of this nature are impossible.



## APPENDIX I

# THE FACTORS *H* AND *L* FOR USE IN COMPUTING DEGREE-DAYS

| H | L | H | L | H | L | H | L |
|---|---|---|---|---|---|---|---|
| −0.70 | 0.70 | −0.32 | 0.39 | 0.05 | 0.17 | 0.42 | 0.05 |
| −0.69 | 0.70 | −0.31 | 0.38 | 0.06 | 0.17 | 0.43 | 0.05 |
| −0.68 | 0.69 | −0.30 | 0.38 | 0.07 | 0.16 | 0.44 | 0.04 |
| −0.67 | 0.68 | −0.29 | 0.37 | 0.08 | 0.16 | 0.45 | 0.04 |
| −0.66 | 0.67 | −0.28 | 0.36 | 0.09 | 0.15 | 0.46 | 0.04 |
| −0.65 | 0.66 | −0.27 | 0.36 | 0.10 | 0.15 | 0.47 | 0.04 |
| −0.64 | 0.65 | −0.26 | 0.35 | 0.11 | 0.14 | 0.48 | 0.04 |
| −0.63 | 0.64 | −0.25 | 0.34 | 0.12 | 0.14 | 0.49 | 0.03 |
| −0.62 | 0.63 | −0.24 | 0.34 | 0.13 | 0.13 | 0.50 | 0.03 |
| −0.61 | 0.62 | −0.23 | 0.33 | 0.14 | 0.13 | 0.51 | 0.03 |
| −0.60 | 0.61 | −0.22 | 0.32 | 0.15 | 0.13 | 0.52 | 0.03 |
| −0.59 | 0.60 | −0.21 | 0.32 | 0.16 | 0.12 | 0.53 | 0.03 |
| −0.58 | 0.59 | −0.20 | 0.31 | 0.17 | 0.12 | 0.54 | 0.03 |
| −0.57 | 0.58 | −0.19 | 0.30 | 0.18 | 0.11 | 0.55 | 0.03 |
| −0.56 | 0.58 | −0.18 | 0.30 | 0.19 | 0.11 | 0.56 | 0.02 |
| −0.55 | 0.57 | −0.17 | 0.29 | 0.20 | 0.11 | 0.57 | 0.02 |
| −0.54 | 0.56 | −0.16 | 0.29 | 0.21 | 0.10 | 0.58 | 0.02 |
| −0.53 | 0.55 | −0.15 | 0.28 | 0.22 | 0.10 | 0.59 | 0.02 |
| −0.52 | 0.54 | −0.14 | 0.27 | 0.23 | 0.10 | 0.60 | 0.02 |
| −0.51 | 0.53 | −0.13 | 0.27 | 0.24 | 0.09 | 0.61 | 0.02 |
| −0.50 | 0.53 | −0.12 | 0.26 | 0.25 | 0.09 | 0.62 | 0.02 |
| −0.49 | 0.52 | −0.11 | 0.25 | 0.26 | 0.09 | 0.63 | 0.02 |
| −0.48 | 0.51 | −0.10 | 0.25 | 0.27 | 0.08 | 0.64 | 0.02 |
| −0.47 | 0.50 | −0.09 | 0.24 | 0.28 | 0.08 | 0.65 | 0.01 |
| −0.46 | 0.50 | −0.08 | 0.24 | 0.29 | 0.08 | 0.66 | 0.01 |
| −0.45 | 0.49 | −0.07 | 0.23 | 0.30 | 0.07 | 0.67 | 0.01 |
| −0.44 | 0.48 | −0.06 | 0.23 | 0.31 | 0.07 | 0.68 | 0.01 |
| −0.43 | 0.47 | −0.05 | 0.22 | 0.32 | 0.07 | 0.69 | 0.01 |
| −0.42 | 0.47 | −0.04 | 0.22 | 0.33 | 0.07 | 0.70 | 0.01 |
| −0.41 | 0.46 | −0.03 | 0.21 | 0.34 | 0.06 | 0.71 | 0.01 |
| −0.40 | 0.45 | −0.02 | 0.20 | 0.35 | 0.06 | 0.72 | 0.01 |
| −0.39 | 0.44 | −0.01 | 0.20 | 0.36 | 0.06 | 0.73 | 0.01 |
| −0.38 | 0.44 | −0.00 | 0.19 | 0.37 | 0.06 | 0.74 | 0.01 |
| −0.37 | 0.43 | 0.01 | 0.19 | 0.38 | 0.06 | 0.75 | 0.01 |
| −0.36 | 0.42 | 0.02 | 0.18 | 0.39 | 0.05 | 0.76 | 0.01 |
| −0.35 | 0.41 | 0.03 | 0.18 | 0.40 | 0.05 | 0.77 | 0.01 |
| −0.34 | 0.41 | 0.04 | 0.17 | 0.41 | 0.05 | 0.78 | 0.00 |
| −0.33 | 0.40 | | | | | | |

For $H \geqq 0.78$, $L = 0$.
For $H \leqq -0.70$, $L = -H$.

To obtain a value for *L*, use the following equation to calculate *H:*

$$H = \frac{(t - b)}{\sigma\sqrt{N}}$$

where $t$ = monthly mean temperature
$b$ = base temperature
$\sigma$ = standard deviation of the monthly mean temperature
$N$ = number of days in the month

Reference: Thom, H.C.S. 1954. The rational relationship between heating degree-days and temperature. Monthly Weather Review 82 (9):1-6.

TABLE 2 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE-DAYS ABOVE 5°C FROM JANUARY 1

SIDNEY, B.C

CLASS FREQUENCY AND BOUNDARY

| WEEK ENDING | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAIL MEA |
|---|---|---|---|---|---|---|---|---|
| APR. 1 | 39 | 59 | 87 | 107 | 160 | | 224 | 105 |
| 8 | 55 | 72 | 105 | 129 | 182 | | 254 | 125 |
| 15 | 67 | 92 | 136 | 149 | 204 | | 284 | 150 |
| 22 | 80 | 123 | 160 | 175 | 228 | | 321 | 177 |
| 29 | 92 | 141 | 187 | 209 | 268 | | 375 | 206 |
| MAY 6 | 122 | 173 | 226 | 250 | 302 | | 416 | 243 |
| 13 | 144 | 222 | 280 | 296 | 354 | | 471 | 286 |
| 20 | 184 | 275 | 325 | 347 | 408 | | 510 | 336 |
| 27 | 217 | 319 | 372 | 407 | 470 | | 577 | 392 |
| JUNE 3 | 252 | 372 | 427 | 470 | 528 | | 630 | 450 |
| 10 | 330 | 448 | 489 | 534 | 587 | | 696 | 515 |
| 17 | 381 | 514 | 550 | 599 | 667 | | 779 | 580 |
| 24 | 446 | 577 | 614 | 664 | 737 | | 878 | 649 |
| JULY 1 | 495 | 644 | 676 | 744 | 805 | | 948 | 719 |
| 8 | 551 | 718 | 758 | 822 | 886 | | 1050 | 796 |
| 15 | 628 | 799 | 836 | 895 | 974 | | 1145 | 877 |
| 22 | 698 | 873 | 924 | 972 | 1062 | | 1240 | 961 |
| 29 | 762 | 946 | 1012 | 1056 | 1147 | | 1356 | 1043 |
| AUG. 5 | 829 | 1024 | 1089 | 1136 | 1239 | | 1449 | 1123 |
| 12 | 904 | 1100 | 1174 | 1216 | 1326 | | 1543 | 1206 |
| 19 | 983 | 1175 | 1247 | 1287 | 1401 | | 1636 | 1287 |
| 26 | 1049 | 1260 | 1331 | 1368 | 1485 | | 1735 | 1364 |
| SEP. 2 | 1125 | 1334 | 1398 | 1446 | 1559 | | 1805 | 1437 |
| 9 | 1210 | 1396 | 1473 | 1518 | 1630 | | 1885 | 1509 |
| 16 | 1261 | 1461 | 1530 | 1582 | 1698 | | 1961 | 1574 |
| 23 | 1306 | 1516 | 1592 | 1649 | 1768 | | 2012 | 1632 |
| 30 | 1352 | 1565 | 1642 | 1721 | 1817 | | 2064 | 1687 |
| OCT. 7 | 1391 | 1616 | 1698 | 1759 | 1872 | | 2118 | 1734 |
| 14 | 1418 | 1664 | 1736 | 1805 | 1922 | | 2159 | 1775 |
| 21 | 1449 | 1688 | 1762 | 1833 | 1965 | | 2197 | 1806 |
| 28 | 1478 | 1710 | 1789 | 1862 | 1991 | | 2224 | 1835 |

TABLE 3 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE-DAYS ABOVE 10°C FROM JANUARY 1

SIDNEY, B.C.

| WEEK ENDING | | RECORD LOW | CLASS FREQUENCY AND BOUNDARY | | | | | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|---|
| | | | MB | B | NORMAL | A | MA | | |
| APR. | 1 | 0 | 1 | 2 | 6 | 14 | | 29 | 6 |
| | 8 | 1 | 2 | 4 | 9 | 17 | | 33 | 9 |
| | 15 | 3 | 4 | 10 | 16 | 24 | | 38 | 13 |
| | 22 | 3 | 6 | 13 | 19 | 32 | | 49 | 18 |
| | 29 | 4 | 10 | 20 | 27 | 39 | | 70 | 25 |
| MAY | 6 | 10 | 16 | 28 | 37 | 58 | | 81 | 35 |
| | 13 | 12 | 26 | 43 | 54 | 73 | | 106 | 49 |
| | 20 | 22 | 41 | 58 | 80 | 93 | | 114 | 68 |
| | 27 | 30 | 62 | 76 | 103 | 129 | | 153 | 92 |
| JUNE | 3 | 37 | 81 | 101 | 122 | 165 | | 190 | 117 |
| | 10 | 81 | 108 | 132 | 153 | 197 | | 240 | 148 |
| | 17 | 100 | 136 | 157 | 180 | 234 | | 288 | 179 |
| | 24 | 130 | 164 | 200 | 225 | 268 | | 352 | 213 |
| JULY | 1 | 145 | 196 | 233 | 260 | 306 | | 388 | 248 |
| | 8 | 167 | 234 | 266 | 306 | 350 | | 455 | 291 |
| | 15 | 209 | 280 | 314 | 356 | 398 | | 514 | 337 |
| | 22 | 244 | 320 | 362 | 403 | 453 | | 575 | 385 |
| | 29 | 273 | 363 | 414 | 450 | 494 | | 656 | 432 |
| AUG. | 5 | 305 | 402 | 464 | 486 | 546 | | 714 | 478 |
| | 12 | 346 | 452 | 505 | 533 | 597 | | 773 | 526 |
| | 19 | 390 | 492 | 545 | 576 | 653 | | 830 | 572 |
| | 26 | 421 | 541 | 589 | 624 | 705 | | 895 | 614 |
| SEP. | 2 | 463 | 574 | 629 | 661 | 745 | | 929 | 652 |
| | 9 | 509 | 605 | 667 | 704 | 779 | | 975 | 689 |
| | 16 | 530 | 632 | 692 | 729 | 811 | | 1015 | 720 |
| | 23 | 544 | 656 | 710 | 759 | 839 | | 1035 | 745 |
| | 30 | 558 | 671 | 738 | 788 | 861 | | 1055 | 767 |
| OCT. | 7 | 568 | 688 | 750 | 796 | 882 | | 1075 | 783 |
| | 14 | 572 | 699 | 761 | 802 | 898 | | 1086 | 794 |
| | 21 | 577 | 708 | 765 | 806 | 909 | | 1093 | 800 |
| | 28 | 581 | 715 | 769 | 813 | 914 | | 1098 | 805 |

TABLE 4 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 13°C FROM JANUARY 1

SIDNEY, B.C.

| WEEK ENDING | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|
| APR. 1 | 0 | 0 | 0 | 0 | 2 | | 6 | 1 |
| 8 | 0 | 0 | 0 | 1 | 3 | | 6 | 1 |
| 15 | 0 | 0 | 1 | 2 | 5 | | 8 | 2 |
| 22 | 0 | 0 | 1 | 3 | 9 | | 10 | 3 |
| 29 | 0 | 0 | 2 | 5 | 12 | | 18 | 5 |
| MAY 6 | 1 | 1 | 5 | 9 | 17 | | 20 | 8 |
| 13 | 1 | 3 | 10 | 17 | 23 | | 32 | 13 |
| 20 | 3 | 7 | 16 | 26 | 35 | | 44 | 21 |
| 27 | 5 | 13 | 23 | 32 | 54 | | 71 | 31 |
| JUNE 3 | 5 | 24 | 32 | 43 | 67 | | 88 | 42 |
| 10 | 22 | 35 | 45 | 62 | 84 | | 117 | 57 |
| 17 | 34 | 46 | 56 | 78 | 99 | | 146 | 72 |
| 24 | 47 | 56 | 74 | 95 | 117 | | 189 | 89 |
| JULY 1 | 54 | 72 | 98 | 111 | 139 | | 206 | 107 |
| 8 | 61 | 89 | 119 | 139 | 162 | | 252 | 131 |
| 15 | 83 | 112 | 141 | 165 | 199 | | 290 | 157 |
| 22 | 100 | 133 | 173 | 197 | 234 | | 331 | 186 |
| 29 | 111 | 160 | 198 | 226 | 259 | | 391 | 214 |
| AUG. 5 | 126 | 182 | 229 | 248 | 293 | | 428 | 240 |
| 12 | 148 | 209 | 253 | 279 | 330 | | 467 | 268 |
| 19 | 172 | 230 | 278 | 302 | 368 | | 504 | 294 |
| 26 | 185 | 259 | 300 | 326 | 396 | | 547 | 316 |
| SEP. 2 | 205 | 273 | 311 | 344 | 417 | | 563 | 336 |
| 9 | 216 | 291 | 331 | 360 | 433 | | 590 | 356 |
| 16 | 226 | 299 | 349 | 369 | 441 | | 611 | 370 |
| 23 | 236 | 306 | 360 | 381 | 452 | | 617 | 380 |
| 30 | 243 | 312 | 367 | 391 | 458 | | 624 | 389 |
| OCT. 7 | 244 | 321 | 374 | 399 | 461 | | 631 | 394 |
| 14 | 245 | 324 | 375 | 399 | 467 | | 632 | 396 |
| 21 | 247 | 325 | 376 | 399 | 469 | | 633 | 397 |
| 28 | 247 | 327 | 376 | 400 | 469 | | 633 | 398 |

TABLE 5 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 5°C FROM JANUARY 1

SUMMERLAND, B.C.

| WEEK ENDING | | CLASS FREQUENCY AND BOUNDARY | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
| APR. | 1 | 15 | 32 | 43 | 56 | 86 | | 119 | 54 |
| | 8 | 39 | 49 | 66 | 81 | 112 | | 150 | 79 |
| | 15 | 63 | 79 | 101 | 112 | 137 | | 195 | 109 |
| | 22 | 81 | 113 | 132 | 149 | 171 | | 243 | 143 |
| | 29 | 92 | 134 | 171 | 186 | 206 | | 312 | 178 |
| MAY | 6 | 130 | 177 | 211 | 235 | 260 | | 365 | 223 |
| | 13 | 162 | 228 | 261 | 296 | 323 | | 424 | 279 |
| | 20 | 215 | 283 | 317 | 363 | 395 | | 483 | 344 |
| | 27 | 256 | 345 | 396 | 438 | 484 | | 563 | 416 |
| JUNE | 3 | 304 | 423 | 472 | 506 | 559 | | 633 | 493 |
| | 10 | 394 | 491 | 557 | 584 | 672 | | 709 | 577 |
| | 17 | 489 | 590 | 643 | 675 | 778 | | 809 | 663 |
| | 24 | 581 | 686 | 726 | 765 | 867 | | 952 | 757 |
| JULY | 1 | 644 | 784 | 817 | 851 | 950 | | 1046 | 846 |
| | 8 | 720 | 874 | 926 | 966 | 1055 | | 1165 | 951 |
| | 15 | 847 | 983 | 1045 | 1087 | 1169 | | 1286 | 1066 |
| | 22 | 969 | 1099 | 1147 | 1193 | 1294 | | 1437 | 1180 |
| | 29 | 1066 | 1211 | 1265 | 1316 | 1400 | | 1574 | 1295 |
| AUG. | 5 | 1159 | 1325 | 1377 | 1432 | 1510 | | 1694 | 1408 |
| | 12 | 1273 | 1422 | 1489 | 1546 | 1628 | | 1826 | 1521 |
| | 19 | 1383 | 1512 | 1585 | 1664 | 1735 | | 1958 | 1627 |
| | 26 | 1472 | 1597 | 1689 | 1770 | 1829 | | 2103 | 1726 |
| SEP. | 2 | 1572 | 1680 | 1789 | 1860 | 1925 | | 2196 | 1816 |
| | 9 | 1648 | 1749 | 1879 | 1940 | 2020 | | 2290 | 1901 |
| | 16 | 1718 | 1822 | 1965 | 2010 | 2099 | | 2372 | 1977 |
| | 23 | 1787 | 1885 | 2020 | 2079 | 2186 | | 2424 | 2042 |
| | 30 | 1848 | 1928 | 2081 | 2147 | 2237 | | 2469 | 2102 |
| OCT. | 7 | 1869 | 1962 | 2118 | 2205 | 2281 | | 2533 | 2148 |
| | 14 | 1911 | 1988 | 2155 | 2237 | 2318 | | 2560 | 2186 |
| | 21 | 1949 | 2014 | 2165 | 2262 | 2347 | | 2590 | 2214 |
| | 28 | 1957 | 2033 | 2186 | 2291 | 2367 | | 2603 | 2232 |

TABLE 6 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 10°C FROM JANUARY 1

SUMMERLAND, B.C.

| WEEK ENDING | RECORD LOW | CLASS FREQUENCY AND BOUNDARY MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|
| APR. 1 | 0 | 2 | 4 | 7 | 15 | | 26 | 7 |
| 8 | 2 | 5 | 8 | 15 | 23 | | 45 | 14 |
| 15 | 8 | 12 | 18 | 25 | 38 | | 51 | 23 |
| 22 | 9 | 18 | 24 | 40 | 52 | | 73 | 35 |
| 29 | 12 | 27 | 38 | 51 | 68 | | 110 | 47 |
| MAY 6 | 30 | 39 | 54 | 76 | 88 | | 132 | 66 |
| 13 | 42 | 54 | 79 | 102 | 130 | | 161 | 92 |
| 20 | 64 | 87 | 107 | 140 | 165 | | 194 | 125 |
| 27 | 78 | 119 | 142 | 171 | 229 | | 246 | 165 |
| JUNE 3 | 97 | 165 | 188 | 210 | 270 | | 294 | 209 |
| 10 | 153 | 201 | 237 | 267 | 334 | | 361 | 258 |
| 17 | 214 | 250 | 284 | 329 | 378 | | 435 | 310 |
| 24 | 272 | 305 | 334 | 383 | 433 | | 535 | 369 |
| JULY 1 | 302 | 361 | 407 | 438 | 482 | | 593 | 424 |
| 8 | 344 | 422 | 482 | 512 | 558 | | 678 | 495 |
| 15 | 436 | 496 | 554 | 587 | 654 | | 764 | 574 |
| 22 | 519 | 569 | 630 | 670 | 747 | | 880 | 653 |
| 29 | 579 | 657 | 709 | 752 | 816 | | 981 | 733 |
| AUG. 5 | 643 | 721 | 781 | 835 | 902 | | 1067 | 812 |
| 12 | 715 | 788 | 857 | 912 | 984 | | 1163 | 889 |
| 19 | 776 | 847 | 921 | 1001 | 1056 | | 1261 | 960 |
| 26 | 817 | 917 | 986 | 1068 | 1126 | | 1371 | 1025 |
| SEP. 2 | 871 | 957 | 1054 | 1127 | 1198 | | 1428 | 1080 |
| 9 | 912 | 1004 | 1103 | 1166 | 1246 | | 1488 | 1131 |
| 16 | 947 | 1036 | 1147 | 1208 | 1268 | | 1536 | 1173 |
| 23 | 982 | 1064 | 1176 | 1248 | 1291 | | 1555 | 1205 |
| 30 | 1012 | 1082 | 1205 | 1281 | 1321 | | 1572 | 1234 |
| OCT. 7 | 1017 | 1092 | 1225 | 1297 | 1345 | | 1603 | 1252 |
| 14 | 1036 | 1096 | 1243 | 1313 | 1364 | | 1609 | 1265 |
| 21 | 1047 | 1102 | 1244 | 1318 | 1377 | | 1616 | 1271 |
| 28 | 1047 | 1106 | 1248 | 1319 | 1383 | | 1617 | 1275 |

TABLE 7 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 13°C FROM JANUARY 1

SUMMERLAND, B.C.

| WEEK ENDING | RECORD LOW | CLASS FREQUENCY AND BOUNDARY MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|
| APR. 1 | 0 | 0 | 0 | 1 | 3 | | 8 | 2 |
| 8 | 0 | 0 | 1 | 4 | 9 | | 18 | 4 |
| 15 | 1 | 2 | 4 | 7 | 14 | | 18 | 7 |
| 22 | 1 | 4 | 7 | 15 | 23 | | 27 | 12 |
| 29 | 1 | 7 | 13 | 19 | 30 | | 49 | 17 |
| MAY 6 | 9 | 11 | 19 | 31 | 40 | | 57 | 27 |
| 13 | 13 | 16 | 34 | 47 | 67 | | 80 | 41 |
| 20 | 23 | 35 | 46 | 68 | 85 | | 112 | 59 |
| 27 | 28 | 51 | 66 | 86 | 115 | | 153 | 83 |
| JUNE 3 | 38 | 78 | 98 | 115 | 155 | | 182 | 110 |
| 10 | 75 | 101 | 123 | 151 | 196 | | 229 | 141 |
| 17 | 111 | 124 | 151 | 190 | 215 | | 285 | 175 |
| 24 | 152 | 161 | 189 | 225 | 267 | | 361 | 215 |
| JULY 1 | 170 | 196 | 233 | 260 | 293 | | 399 | 251 |
| 8 | 194 | 235 | 287 | 318 | 350 | | 462 | 301 |
| 15 | 263 | 290 | 349 | 372 | 431 | | 527 | 361 |
| 22 | 311 | 338 | 396 | 430 | 499 | | 623 | 419 |
| 29 | 352 | 406 | 452 | 487 | 561 | | 703 | 479 |
| AUG. 5 | 400 | 446 | 513 | 550 | 612 | | 768 | 536 |
| 12 | 448 | 493 | 570 | 613 | 681 | | 843 | 593 |
| 19 | 488 | 532 | 609 | 676 | 736 | | 919 | 644 |
| 26 | 510 | 581 | 648 | 726 | 790 | | 1008 | 688 |
| SEP. 2 | 545 | 612 | 694 | 767 | 837 | | 1045 | 725 |
| 9 | 568 | 649 | 718 | 794 | 852 | | 1087 | 758 |
| 16 | 585 | 671 | 747 | 824 | 862 | | 1114 | 783 |
| 23 | 604 | 687 | 762 | 842 | 874 | | 1121 | 800 |
| 30 | 619 | 698 | 778 | 854 | 890 | | 1128 | 815 |
| OCT. 7 | 621 | 700 | 786 | 864 | 901 | | 1144 | 823 |
| 14 | 629 | 701 | 788 | 867 | 909 | | 1145 | 827 |
| 21 | 631 | 703 | 788 | 871 | 914 | | 1146 | 829 |
| 28 | 631 | 704 | 789 | 871 | 914 | | 1147 | 830 |

TABLE 8 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE $5^{\circ}C$ FROM JANUARY 1

LETHBRIDGE, ALTA.

| WEEK ENDING | RECORD LOW | CLASS FREQUENCY AND BOUNDARY MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|
| APR. 1 | 10 | 17 | 28 | 47 | 68 | | 91 | 40 |
| 8 | 11 | 31 | 40 | 60 | 84 | | 98 | 54 |
| 15 | 17 | 40 | 58 | 80 | 109 | | 124 | 73 |
| 22 | 40 | 53 | 76 | 110 | 140 | | 157 | 93 |
| 29 | 40 | 65 | 96 | 131 | 161 | | 203 | 115 |
| MAY 6 | 43 | 90 | 120 | 169 | 187 | | 232 | 144 |
| 13 | 52 | 116 | 157 | 203 | 243 | | 272 | 179 |
| 20 | 107 | 157 | 203 | 249 | 292 | | 311 | 224 |
| 27 | 160 | 202 | 255 | 298 | 342 | | 360 | 276 |
| JUNE 3 | 204 | 252 | 311 | 357 | 408 | | 416 | 333 |
| 10 | 256 | 299 | 375 | 427 | 469 | | 500 | 395 |
| 17 | 329 | 369 | 445 | 489 | 537 | | 564 | 461 |
| 24 | 390 | 434 | 512 | 574 | 609 | | 666 | 532 |
| JULY 1 | 480 | 494 | 588 | 639 | 683 | | 757 | 603 |
| 8 | 546 | 577 | 681 | 720 | 769 | | 862 | 691 |
| 15 | 643 | 683 | 774 | 819 | 852 | | 961 | 784 |
| 22 | 746 | 773 | 857 | 917 | 947 | | 1063 | 880 |
| 29 | 844 | 872 | 947 | 1013 | 1054 | | 1146 | 974 |
| AUG. 5 | 930 | 960 | 1046 | 1103 | 1152 | | 1256 | 1068 |
| 12 | 1024 | 1041 | 1127 | 1200 | 1240 | | 1347 | 1158 |
| 19 | 1104 | 1123 | 1207 | 1285 | 1336 | | 1446 | 1243 |
| 26 | 1163 | 1195 | 1287 | 1349 | 1428 | | 1555 | 1323 |
| SEP. 2 | 1189 | 1282 | 1343 | 1424 | 1495 | | 1636 | 1391 |
| 9 | 1251 | 1352 | 1402 | 1480 | 1568 | | 1690 | 1453 |
| 16 | 1302 | 1397 | 1458 | 1533 | 1626 | | 1727 | 1507 |
| 23 | 1336 | 1432 | 1506 | 1583 | 1674 | | 1750 | 1551 |
| 30 | 1353 | 1455 | 1569 | 1644 | 1712 | | 1771 | 1594 |
| OCT. 7 | 1393 | 1491 | 1614 | 1676 | 1765 | | 1822 | 1631 |
| 14 | 1439 | 1520 | 1653 | 1702 | 1789 | | 1880 | 1663 |
| 21 | 1439 | 1543 | 1676 | 1722 | 1824 | | 1923 | 1689 |
| 28 | 1444 | 1566 | 1691 | 1733 | 1850 | | 1946 | 1709 |

TABLE 9 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 10°C FROM JANUARY 1

LETHBRIDGE, ALTA.

| WEEK ENDING | RECORD LOW | CLASS FREQUENCY AND BOUNDARY MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|
| APR. 1 | 0 | 1 | 3 | 9 | 13 | | 21 | 7 |
| 8 | 0 | 3 | 9 | 12 | 20 | | 27 | 11 |
| 15 | 1 | 5 | 14 | 23 | 30 | | 33 | 17 |
| 22 | 4 | 9 | 16 | 30 | 41 | | 53 | 24 |
| 29 | 4 | 14 | 24 | 41 | 58 | | 72 | 33 |
| MAY 6 | 5 | 21 | 32 | 54 | 70 | | 81 | 44 |
| 13 | 6 | 31 | 40 | 69 | 92 | | 112 | 59 |
| 20 | 33 | 47 | 74 | 81 | 110 | | 138 | 79 |
| 27 | 44 | 67 | 94 | 115 | 140 | | 160 | 104 |
| JUNE 3 | 61 | 87 | 120 | 144 | 173 | | 187 | 132 |
| 10 | 85 | 109 | 148 | 177 | 210 | | 239 | 163 |
| 17 | 116 | 139 | 183 | 217 | 248 | | 278 | 197 |
| 24 | 163 | 178 | 222 | 258 | 294 | | 345 | 235 |
| JULY 1 | 197 | 210 | 258 | 292 | 321 | | 402 | 273 |
| 8 | 237 | 256 | 318 | 340 | 372 | | 472 | 327 |
| 15 | 295 | 323 | 371 | 401 | 426 | | 536 | 386 |
| 22 | 357 | 384 | 430 | 465 | 503 | | 603 | 447 |
| 29 | 413 | 443 | 483 | 522 | 576 | | 652 | 506 |
| AUG. 5 | 466 | 495 | 542 | 575 | 643 | | 727 | 566 |
| 12 | 525 | 549 | 596 | 639 | 701 | | 784 | 622 |
| 19 | 575 | 590 | 652 | 684 | 761 | | 848 | 673 |
| 26 | 604 | 634 | 690 | 730 | 808 | | 922 | 719 |
| SEP. 2 | 606 | 677 | 725 | 769 | 832 | | 969 | 756 |
| 9 | 637 | 711 | 750 | 800 | 873 | | 994 | 789 |
| 16 | 658 | 736 | 781 | 834 | 908 | | 1010 | 816 |
| 23 | 674 | 747 | 792 | 860 | 935 | | 1018 | 836 |
| 30 | 680 | 761 | 818 | 878 | 965 | | 1039 | 857 |
| OCT. 7 | 692 | 777 | 833 | 887 | 990 | | 1064 | 873 |
| 14 | 712 | 795 | 856 | 901 | 1014 | | 1065 | 886 |
| 21 | 712 | 803 | 872 | 908 | 1027 | | 1079 | 896 |
| 28 | 713 | 816 | 878 | 909 | 1028 | | 1080 | 903 |

TABLE 10

FREQUENCY CLASSES AND 30-YEAR AVERAGES
OF DEGREE DAYS ABOVE 13°C FROM JANUARY 1
LETHBRIDGE, ALTA.

| WEEK ENDING | | CLASS FREQUENCY AND BOUNDARY | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
| APR. | 1 | 0 | 0 | 0 | 2 | 4 | | 10 | 2 |
| | 8 | 0 | 0 | 3 | 4 | 6 | | 11 | 3 |
| | 15 | 0 | 1 | 5 | 8 | 12 | | 13 | 6 |
| | 22 | 0 | 2 | 5 | 11 | 18 | | 26 | 9 |
| | 29 | 0 | 4 | 9 | 16 | 28 | | 35 | 14 |
| MAY | 6 | 0 | 6 | 14 | 22 | 34 | | 38 | 19 |
| | 13 | 0 | 10 | 19 | 32 | 44 | | 62 | 27 |
| | 20 | 15 | 18 | 32 | 41 | 52 | | 77 | 37 |
| | 27 | 17 | 31 | 44 | 56 | 70 | | 90 | 51 |
| JUNE | 3 | 24 | 43 | 57 | 73 | 96 | | 107 | 66 |
| | 10 | 37 | 51 | 72 | 89 | 126 | | 136 | 84 |
| | 17 | 50 | 69 | 93 | 111 | 142 | | 173 | 104 |
| | 24 | 76 | 86 | 110 | 135 | 167 | | 220 | 127 |
| JULY | 1 | 95 | 107 | 136 | 162 | 180 | | 259 | 149 |
| | 8 | 118 | 136 | 176 | 190 | 215 | | 310 | 185 |
| | 15 | 159 | 184 | 214 | 235 | 252 | | 354 | 225 |
| | 22 | 201 | 223 | 250 | 275 | 317 | | 401 | 267 |
| | 29 | 241 | 257 | 291 | 316 | 362 | | 432 | 308 |
| AUG. | 5 | 276 | 296 | 328 | 361 | 402 | | 486 | 348 |
| | 12 | 316 | 329 | 365 | 394 | 449 | | 526 | 386 |
| | 19 | 340 | 352 | 405 | 424 | 487 | | 570 | 420 |
| | 26 | 354 | 382 | 429 | 450 | 519 | | 624 | 449 |
| SEP. | 2 | 361 | 400 | 454 | 478 | 536 | | 654 | 472 |
| | 9 | 379 | 414 | 468 | 497 | 564 | | 667 | 492 |
| | 16 | 388 | 437 | 477 | 518 | 587 | | 676 | 508 |
| | 23 | 397 | 442 | 493 | 533 | 599 | | 681 | 519 |
| | 30 | 400 | 456 | 505 | 540 | 609 | | 695 | 531 |
| OCT. | 7 | 403 | 464 | 515 | 546 | 626 | | 712 | 539 |
| | 14 | 415 | 480 | 522 | 553 | 635 | | 712 | 546 |
| | 21 | 415 | 485 | 524 | 553 | 644 | | 719 | 550 |
| | 28 | 415 | 491 | 528 | 555 | 647 | | 719 | 554 |

TABLE 11 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 5°C FROM JANUARY 1

BEAVERLODGE, ALTA.

CLASS FREQUENCY AND BOUNDARY

| WEEK ENDING | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|---|
| APR. | 1 | 0 | 1 | 5 | 8 | 16 | 18 | 18 | 7 |
| | 8 | 0 | 2 | 7 | 14 | 22 | 40 | 40 | 12 |
| | 15 | 1 | 5 | 14 | 19 | 32 | 59 | 59 | 20 |
| | 22 | 1 | 12 | 19 | 31 | 49 | 85 | 85 | 30 |
| | 29 | 4 | 16 | 35 | 43 | 74 | 137 | 137 | 45 |
| MAY | 6 | 17 | 37 | 54 | 64 | 97 | 173 | 173 | 66 |
| | 13 | 25 | 55 | 83 | 105 | 139 | 195 | 195 | 95 |
| | 20 | 67 | 91 | 113 | 142 | 177 | 228 | 228 | 134 |
| | 27 | 106 | 133 | 158 | 192 | 227 | 275 | 275 | 179 |
| JUNE | 3 | 164 | 177 | 203 | 252 | 285 | 333 | 333 | 229 |
| | 10 | 210 | 230 | 253 | 310 | 356 | 402 | 402 | 286 |
| | 17 | 256 | 286 | 317 | 351 | 424 | 458 | 458 | 344 |
| | 24 | 312 | 335 | 376 | 416 | 496 | 527 | 527 | 404 |
| JULY | 1 | 380 | 396 | 434 | 482 | 557 | 610 | 610 | 465 |
| | 8 | 446 | 463 | 500 | 556 | 632 | 698 | 698 | 537 |
| | 15 | 517 | 545 | 574 | 620 | 711 | 789 | 789 | 613 |
| | 22 | 579 | 612 | 646 | 690 | 805 | 906 | 906 | 691 |
| | 29 | 640 | 677 | 720 | 761 | 877 | 986 | 986 | 762 |
| AUG. | 5 | 711 | 739 | 806 | 838 | 965 | 1044 | 1044 | 838 |
| | 12 | 770 | 804 | 872 | 925 | 1044 | 1124 | 1124 | 911 |
| | 19 | 817 | 866 | 934 | 994 | 1119 | 1204 | 1204 | 976 |
| | 26 | 880 | 914 | 985 | 1067 | 1191 | 1279 | 1279 | 1037 |
| SEP. | 2 | 927 | 972 | 1043 | 1114 | 1245 | 1308 | 1308 | 1088 |
| | 9 | 946 | 1003 | 1084 | 1165 | 1293 | 1348 | 1348 | 1133 |
| | 16 | 973 | 1048 | 1131 | 1204 | 1337 | 1402 | 1402 | 1175 |
| | 23 | 996 | 1080 | 1159 | 1259 | 1361 | 1428 | 1428 | 1208 |
| | 30 | 1011 | 1104 | 1188 | 1283 | 1378 | 1452 | 1452 | 1237 |
| OCT. | 7 | 1043 | 1117 | 1207 | 1303 | 1401 | 1486 | 1486 | 1260 |
| | 14 | 1059 | 1131 | 1218 | 1332 | 1410 | 1535 | 1535 | 1279 |
| | 21 | 1066 | 1147 | 1228 | 1342 | 1433 | 1566 | 1566 | 1293 |
| | 28 | 1077 | 1155 | 1249 | 1343 | 1438 | 1590 | 1590 | 1301 |

TABLE 12

FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 10°C FROM JANUARY 1

BEAVERLODGE, ALTA.

| WEEK ENDING | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|---|
| APR. | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 0 |
| | 8 | 0 | 0 | 0 | 1 | 4 | 9 | 9 | 1 |
| | 15 | 0 | 0 | 0 | 2 | 6 | 13 | 13 | 3 |
| | 22 | 0 | 0 | 2 | 5 | 9 | 20 | 20 | 5 |
| | 29 | 0 | 1 | 5 | 7 | 17 | 45 | 45 | 9 |
| MAY | 6 | 2 | 4 | 8 | 15 | 25 | 57 | 57 | 16 |
| | 13 | 3 | 9 | 17 | 30 | 42 | 63 | 63 | 26 |
| | 20 | 16 | 20 | 35 | 47 | 64 | 83 | 83 | 42 |
| | 27 | 27 | 35 | 51 | 70 | 90 | 103 | 103 | 62 |
| JUNE | 3 | 39 | 58 | 67 | 89 | 124 | 137 | 137 | 84 |
| | 10 | 50 | 79 | 93 | 116 | 156 | 186 | 186 | 112 |
| | 17 | 66 | 101 | 125 | 141 | 181 | 228 | 228 | 140 |
| | 24 | 93 | 123 | 150 | 168 | 219 | 269 | 269 | 168 |
| JULY | 1 | 126 | 155 | 175 | 201 | 265 | 306 | 306 | 198 |
| | 8 | 173 | 191 | 209 | 241 | 312 | 333 | 333 | 237 |
| | 15 | 210 | 230 | 247 | 285 | 357 | 387 | 387 | 279 |
| | 22 | 241 | 264 | 293 | 324 | 417 | 460 | 460 | 323 |
| | 29 | 270 | 292 | 326 | 361 | 458 | 506 | 506 | 361 |
| AUG. | 5 | 306 | 327 | 379 | 414 | 511 | 531 | 531 | 404 |
| | 12 | 335 | 357 | 405 | 458 | 552 | 575 | 575 | 443 |
| | 19 | 352 | 385 | 443 | 494 | 601 | 622 | 622 | 477 |
| | 26 | 385 | 406 | 461 | 534 | 619 | 676 | 676 | 507 |
| SEP. | 2 | 395 | 435 | 489 | 556 | 636 | 697 | 697 | 530 |
| | 9 | 399 | 458 | 509 | 587 | 672 | 704 | 704 | 550 |
| | 16 | 408 | 472 | 527 | 615 | 682 | 726 | 726 | 568 |
| | 23 | 413 | 483 | 532 | 634 | 690 | 728 | 728 | 580 |
| | 30 | 414 | 487 | 546 | 648 | 715 | 731 | 731 | 591 |
| OCT. | 7 | 427 | 492 | 564 | 654 | 721 | 744 | 744 | 599 |
| | 14 | 440 | 494 | 567 | 656 | 724 | 757 | 757 | 604 |
| | 21 | 440 | 496 | 569 | 657 | 728 | 769 | 769 | 607 |
| | 28 | 442 | 497 | 572 | 657 | 729 | 776 | 776 | 609 |

CLASS FREQUENCY AND BOUNDARY

TABLE 13 FREQUENCY CLASSES AND 30 -YEAR AVERAGES OF DEGREE DAYS ABOVE 13°C FROM JANUARY 1

BEAVERLODGE, ALTA.

| WEEK ENDING | RECORD LOW | CLASS FREQUENCY AND BOUNDARY MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|
| APR. 1 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| 8 | 0 | 0 | 0 | 0 | 1 | | 3 | 0 |
| 15 | 0 | 0 | 0 | 0 | 2 | | 4 | 1 |
| 22 | 0 | 0 | 0 | 1 | 4 | | 7 | 1 |
| 29 | 0 | 0 | 1 | 2 | 5 | | 20 | 3 |
| MAY 6 | 0 | 1 | 2 | 6 | 10 | | 25 | 6 |
| 13 | 0 | 2 | 5 | 13 | 21 | | 27 | 10 |
| 20 | 4 | 6 | 14 | 22 | 29 | | 38 | 18 |
| 27 | 7 | 13 | 22 | 32 | 47 | | 56 | 29 |
| JUNE 3 | 11 | 22 | 29 | 44 | 63 | | 85 | 41 |
| 10 | 15 | 34 | 44 | 59 | 83 | | 117 | 55 |
| 17 | 21 | 44 | 59 | 72 | 98 | | 142 | 70 |
| 24 | 33 | 54 | 72 | 90 | 115 | | 164 | 86 |
| JULY 1 | 50 | 73 | 85 | 104 | 146 | | 184 | 102 |
| 8 | 80 | 90 | 104 | 129 | 177 | | 197 | 125 |
| 15 | 102 | 112 | 125 | 154 | 206 | | 236 | 150 |
| 22 | 120 | 129 | 149 | 179 | 246 | | 275 | 178 |
| 29 | 135 | 148 | 170 | 203 | 268 | | 302 | 200 |
| AUG. 5 | 147 | 170 | 211 | 233 | 302 | | 329 | 226 |
| 12 | 165 | 179 | 223 | 262 | 329 | | 356 | 249 |
| 19 | 174 | 191 | 246 | 287 | 361 | | 387 | 268 |
| 26 | 183 | 206 | 253 | 309 | 370 | | 424 | 285 |
| SEP. 2 | 185 | 214 | 263 | 322 | 375 | | 434 | 297 |
| 9 | 187 | 224 | 278 | 343 | 393 | | 435 | 307 |
| 16 | 191 | 234 | 285 | 356 | 398 | | 447 | 316 |
| 23 | 191 | 242 | 288 | 361 | 407 | | 447 | 322 |
| 30 | 191 | 247 | 288 | 368 | 418 | | 448 | 328 |
| OCT. 7 | 198 | 248 | 299 | 370 | 420 | | 453 | 330 |
| 14 | 204 | 249 | 303 | 371 | 425 | | 461 | 333 |
| 21 | 206 | 250 | 304 | 374 | 427 | | 464 | 334 |
| 28 | 207 | 250 | 304 | 374 | 427 | | 464 | 334 |

TABLE 14

FREQUENCY CLASSES AND 30-YEAR AVERAGES
OF DEGREE DAYS ABOVE 5°C FROM JANUARY 1
SWIFT CURRENT, SASK.

| WEEK ENDING | | CLASS FREQUENCY AND BOUNDARY | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
| APR. | 1 | 0 | 1 | 4 | 11 | 30 | 40 | 12 |
| | 8 | 0 | 3 | 11 | 30 | 40 | 45 | 20 |
| | 15 | 3 | 8 | 25 | 45 | 62 | 77 | 36 |
| | 22 | 7 | 17 | 44 | 65 | 93 | 112 | 55 |
| | 29 | 14 | 38 | 62 | 85 | 123 | 162 | 78 |
| MAY | 6 | 22 | 55 | 90 | 116 | 153 | 204 | 107 |
| | 13 | 32 | 82 | 129 | 156 | 192 | 281 | 142 |
| | 20 | 78 | 126 | 175 | 206 | 245 | 332 | 186 |
| | 27 | 148 | 166 | 225 | 271 | 295 | 375 | 240 |
| JUNE | 3 | 196 | 222 | 288 | 322 | 360 | 446 | 300 |
| | 10 | 239 | 271 | 350 | 402 | 431 | 547 | 366 |
| | 17 | 302 | 340 | 429 | 467 | 507 | 606 | 437 |
| | 24 | 367 | 408 | 488 | 536 | 576 | 679 | 508 |
| JULY | 1 | 432 | 484 | 565 | 615 | 672 | 749 | 585 |
| | 8 | 532 | 565 | 658 | 704 | 776 | 842 | 677 |
| | 15 | 630 | 658 | 759 | 801 | 872 | 942 | 775 |
| | 22 | 737 | 757 | 840 | 901 | 968 | 1042 | 874 |
| | 29 | 826 | 863 | 934 | 994 | 1062 | 1150 | 972 |
| AUG. | 5 | 903 | 968 | 1038 | 1099 | 1175 | 1263 | 1073 |
| | 12 | 987 | 1051 | 1142 | 1201 | 1256 | 1374 | 1167 |
| | 19 | 1052 | 1145 | 1216 | 1293 | 1354 | 1473 | 1258 |
| | 26 | 1104 | 1244 | 1287 | 1380 | 1436 | 1582 | 1342 |
| SEP. | 2 | 1185 | 1316 | 1373 | 1458 | 1531 | 1668 | 1413 |
| | 9 | 1262 | 1383 | 1440 | 1520 | 1612 | 1727 | 1476 |
| | 16 | 1278 | 1420 | 1492 | 1562 | 1683 | 1768 | 1530 |
| | 23 | 1344 | 1430 | 1538 | 1610 | 1741 | 1797 | 1572 |
| | 30 | 1366 | 1445 | 1574 | 1657 | 1779 | 1823 | 1610 |
| OCT. | 7 | 1391 | 1490 | 1619 | 1689 | 1814 | 1880 | 1642 |
| | 14 | 1421 | 1518 | 1660 | 1699 | 1844 | 1942 | 1672 |
| | 21 | 1427 | 1540 | 1686 | 1725 | 1858 | 1992 | 1694 |
| | 28 | 1443 | 1566 | 1697 | 1735 | 1868 | 2021 | 1708 |

TABLE 15 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 10°C FROM JANUARY 1

SWIFT CURRENT, SASK.

| WEEK ENDING | RECORD LOW | CLASS FREQUENCY AND BOUNDARY MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|
| APR. 1 | 0 | 0 | 0 | 2 | 6 | | 10 | 2 |
| 8 | 0 | 0 | 2 | 4 | 9 | | 12 | 4 |
| 15 | 0 | 1 | 5 | 11 | 15 | | 27 | 9 |
| 22 | 1 | 3 | 10 | 15 | 31 | | 43 | 16 |
| 29 | 2 | 6 | 16 | 25 | 49 | | 69 | 25 |
| MAY 6 | 2 | 13 | 27 | 42 | 61 | | 87 | 37 |
| 13 | 5 | 21 | 42 | 55 | 83 | | 133 | 52 |
| 20 | 26 | 38 | 59 | 75 | 107 | | 162 | 72 |
| 27 | 49 | 59 | 83 | 112 | 138 | | 183 | 99 |
| JUNE 3 | 62 | 84 | 113 | 147 | 173 | | 222 | 130 |
| 10 | 75 | 103 | 152 | 181 | 221 | | 288 | 166 |
| 17 | 105 | 146 | 194 | 220 | 253 | | 316 | 204 |
| 24 | 140 | 181 | 225 | 261 | 306 | | 357 | 243 |
| JULY 1 | 174 | 223 | 260 | 297 | 353 | | 422 | 287 |
| 8 | 239 | 277 | 317 | 361 | 429 | | 507 | 344 |
| 15 | 302 | 329 | 375 | 425 | 490 | | 573 | 408 |
| 22 | 376 | 392 | 428 | 489 | 545 | | 633 | 472 |
| 29 | 430 | 459 | 498 | 560 | 602 | | 694 | 536 |
| AUG. 5 | 472 | 517 | 572 | 629 | 671 | | 782 | 602 |
| 12 | 522 | 562 | 630 | 695 | 725 | | 845 | 662 |
| 19 | 562 | 613 | 685 | 755 | 788 | | 922 | 719 |
| 26 | 596 | 678 | 725 | 795 | 845 | | 1006 | 770 |
| SEP. 2 | 644 | 705 | 771 | 841 | 913 | | 1059 | 809 |
| 9 | 667 | 736 | 808 | 882 | 950 | | 1090 | 843 |
| 16 | 681 | 768 | 826 | 912 | 997 | | 1107 | 870 |
| 23 | 700 | 783 | 846 | 918 | 1022 | | 1119 | 889 |
| 30 | 713 | 801 | 873 | 936 | 1047 | | 1124 | 906 |
| OCT. 7 | 719 | 822 | 889 | 946 | 1058 | | 1144 | 920 |
| 14 | 728 | 825 | 911 | 960 | 1062 | | 1155 | 932 |
| 21 | 747 | 827 | 919 | 966 | 1067 | | 1173 | 941 |
| 28 | 747 | 837 | 924 | 967 | 1070 | | 1173 | 945 |

TABLE 16 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 13°C FROM JANUARY 1

SWIFT CURRENT, SASK.

| WEEK ENDING | | CLASS FREQUENCY AND BOUNDARY | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
| APR. | 1 | 0 | 0 | 0 | 0 | 2 | | 5 | 1 |
| | 8 | 0 | 0 | 0 | 1 | 3 | | 5 | 1 |
| | 15 | 0 | 0 | 2 | 4 | 6 | | 13 | 3 |
| | 22 | 0 | 1 | 3 | 5 | 15 | | 22 | 6 |
| | 29 | 0 | 1 | 6 | 11 | 24 | | 40 | 11 |
| MAY | 6 | 0 | 4 | 10 | 19 | 31 | | 48 | 17 |
| | 13 | 1 | 8 | 18 | 28 | 46 | | 76 | 25 |
| | 20 | 12 | 17 | 28 | 37 | 60 | | 95 | 36 |
| | 27 | 20 | 28 | 39 | 57 | 79 | | 107 | 52 |
| JUNE | 3 | 27 | 41 | 59 | 84 | 102 | | 130 | 71 |
| | 10 | 32 | 51 | 76 | 101 | 134 | | 177 | 92 |
| | 17 | 47 | 74 | 107 | 123 | 158 | | 199 | 115 |
| | 24 | 69 | 96 | 119 | 146 | 187 | | 236 | 139 |
| JULY | 1 | 87 | 117 | 141 | 175 | 214 | | 285 | 166 |
| | 8 | 134 | 154 | 181 | 215 | 271 | | 350 | 205 |
| | 15 | 178 | 195 | 219 | 256 | 314 | | 396 | 249 |
| | 22 | 217 | 236 | 268 | 308 | 350 | | 438 | 294 |
| | 29 | 256 | 279 | 318 | 360 | 391 | | 480 | 339 |
| AUG. | 5 | 290 | 312 | 364 | 404 | 443 | | 547 | 386 |
| | 12 | 321 | 350 | 400 | 458 | 484 | | 592 | 428 |
| | 19 | 344 | 382 | 435 | 500 | 521 | | 649 | 466 |
| | 26 | 363 | 411 | 477 | 527 | 566 | | 712 | 501 |
| SEP. | 2 | 394 | 426 | 498 | 551 | 607 | | 750 | 525 |
| | 9 | 405 | 444 | 507 | 576 | 628 | | 768 | 546 |
| | 16 | 411 | 461 | 527 | 595 | 657 | | 777 | 562 |
| | 23 | 421 | 467 | 533 | 598 | 676 | | 783 | 572 |
| | 30 | 428 | 488 | 549 | 610 | 690 | | 785 | 582 |
| OCT. | 7 | 432 | 494 | 558 | 617 | 694 | | 797 | 589 |
| | 14 | 436 | 499 | 563 | 624 | 695 | | 803 | 596 |
| | 21 | 446 | 502 | 568 | 627 | 697 | | 814 | 599 |
| | 28 | 446 | 506 | 571 | 627 | 700 | | 814 | 602 |

TABLE 17 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 5°C FROM JANUARY 1

WINNIPEG, MAN.

| WEEK ENDING | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|
| APR. 1 | 0 | 0 | 0 | 1 | 19 | | 33 | 5 |
| 8 | 0 | 0 | 1 | 6 | 24 | | 42 | 8 |
| 15 | 0 | 1 | 9 | 17 | 43 | | 83 | 20 |
| 22 | 2 | 5 | 25 | 35 | 73 | | 102 | 35 |
| 29 | 4 | 23 | 33 | 70 | 105 | | 171 | 58 |
| MAY 6 | 7 | 37 | 75 | 107 | 155 | | 251 | 93 |
| 13 | 29 | 49 | 97 | 141 | 199 | | 283 | 125 |
| 20 | 60 | 80 | 149 | 186 | 255 | | 320 | 168 |
| 27 | 119 | 135 | 200 | 248 | 311 | | 392 | 224 |
| JUNE 3 | 159 | 180 | 254 | 316 | 382 | | 431 | 287 |
| 10 | 225 | 246 | 335 | 396 | 447 | | 524 | 361 |
| 17 | 288 | 327 | 421 | 470 | 521 | | 624 | 441 |
| 24 | 391 | 412 | 505 | 545 | 609 | | 709 | 524 |
| JULY 1 | 464 | 496 | 596 | 643 | 711 | | 796 | 617 |
| 8 | 542 | 589 | 677 | 747 | 825 | | 902 | 715 |
| 15 | 619 | 700 | 784 | 848 | 928 | | 993 | 818 |
| 22 | 730 | 809 | 895 | 963 | 1040 | | 1133 | 925 |
| 29 | 840 | 911 | 996 | 1074 | 1165 | | 1237 | 1031 |
| AUG. 5 | 939 | 1004 | 1099 | 1170 | 1269 | | 1363 | 1136 |
| 12 | 1032 | 1089 | 1191 | 1270 | 1375 | | 1470 | 1237 |
| 19 | 1108 | 1175 | 1277 | 1366 | 1487 | | 1597 | 1330 |
| 26 | 1163 | 1264 | 1380 | 1467 | 1575 | | 1705 | 1424 |
| SEP. 2 | 1256 | 1350 | 1469 | 1535 | 1671 | | 1810 | 1507 |
| 9 | 1328 | 1424 | 1540 | 1611 | 1732 | | 1884 | 1577 |
| 16 | 1382 | 1461 | 1586 | 1679 | 1796 | | 1943 | 1634 |
| 23 | 1436 | 1496 | 1636 | 1729 | 1831 | | 1991 | 1681 |
| 30 | 1476 | 1533 | 1664 | 1757 | 1903 | | 2016 | 1718 |
| OCT. 7 | 1507 | 1546 | 1699 | 1788 | 1934 | | 2048 | 1753 |
| 14 | 1521 | 1576 | 1751 | 1796 | 1953 | | 2095 | 1782 |
| 21 | 1550 | 1589 | 1781 | 1827 | 1969 | | 2153 | 1807 |
| 28 | 1567 | 1596 | 1782 | 1839 | 1977 | | 2198 | 1818 |

CLASS FREQUENCY AND BOUNDARY

TABLE 18

FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 10°C FROM JANUARY 1

WINNIPEG, MAN.

CLASS FREQUENCY AND BOUNDARY

| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|---|
| APR. | 1 | 0 | 0 | 0 | 0 | 2 | | 8 | 1 |
| | 8 | 0 | 0 | 0 | 0 | 6 | | 8 | 1 |
| | 15 | 0 | 0 | 1 | 4 | 12 | | 25 | 5 |
| | 22 | 0 | 0 | 5 | 9 | 24 | | 41 | 10 |
| | 29 | 0 | 4 | 9 | 26 | 36 | | 97 | 20 |
| MAY | 6 | 0 | 7 | 24 | 38 | 71 | | 145 | 36 |
| | 13 | 6 | 11 | 32 | 59 | 91 | | 157 | 50 |
| | 20 | 15 | 19 | 55 | 71 | 114 | | 170 | 70 |
| | 27 | 42 | 51 | 82 | 111 | 148 | | 211 | 98 |
| JUNE | 3 | 51 | 73 | 113 | 156 | 191 | | 226 | 132 |
| | 10 | 82 | 108 | 154 | 193 | 226 | | 285 | 173 |
| | 17 | 113 | 148 | 220 | 238 | 280 | | 350 | 220 |
| | 24 | 182 | 204 | 258 | 284 | 331 | | 401 | 270 |
| JULY | 1 | 221 | 247 | 314 | 347 | 409 | | 452 | 329 |
| | 8 | 262 | 310 | 374 | 413 | 489 | | 524 | 392 |
| | 15 | 309 | 384 | 435 | 489 | 547 | | 574 | 461 |
| | 22 | 394 | 451 | 510 | 560 | 628 | | 670 | 533 |
| | 29 | 466 | 500 | 571 | 630 | 709 | | 739 | 604 |
| AUG. | 5 | 533 | 558 | 647 | 708 | 781 | | 830 | 674 |
| | 12 | 589 | 621 | 720 | 777 | 861 | | 903 | 740 |
| | 19 | 610 | 683 | 778 | 828 | 939 | | 995 | 799 |
| | 26 | 645 | 747 | 833 | 890 | 1001 | | 1068 | 859 |
| SEP. | 2 | 686 | 798 | 888 | 927 | 1046 | | 1138 | 909 |
| | 9 | 702 | 836 | 908 | 984 | 1080 | | 1179 | 947 |
| | 16 | 767 | 849 | 923 | 1010 | 1105 | | 1209 | 975 |
| | 23 | 797 | 858 | 950 | 1022 | 1123 | | 1228 | 995 |
| | 30 | 813 | 871 | 968 | 1031 | 1162 | | 1235 | 1011 |
| OCT. | 7 | 816 | 875 | 978 | 1049 | 1191 | | 1244 | 1026 |
| | 14 | 824 | 882 | 994 | 1055 | 1197 | | 1278 | 1037 |
| | 21 | 825 | 894 | 1013 | 1076 | 1201 | | 1311 | 1046 |
| | 28 | 825 | 895 | 1013 | 1076 | 1207 | | 1332 | 1049 |

TABLE 19 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 13°C FROM JANUARY 1

WINNIPEG, MAN.

| | | CLASS FREQUENCY AND BOUNDARY | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
| APR. | 1 | 0 | 0 | 0 | 0 | 0 | | 3 | 0 |
| | 8 | 0 | 0 | 0 | 0 | 2 | | 3 | 0 |
| | 15 | 0 | 0 | 0 | 1 | 5 | | 12 | 2 |
| | 22 | 0 | 0 | 1 | 4 | 9 | | 25 | 4 |
| | 29 | 0 | 1 | 3 | 12 | 18 | | 66 | 9 |
| MAY | 6 | 0 | 2 | 9 | 19 | 41 | | 99 | 19 |
| | 13 | 2 | 4 | 14 | 28 | 52 | | 104 | 26 |
| | 20 | 5 | 7 | 27 | 38 | 65 | | 110 | 37 |
| | 27 | 19 | 25 | 42 | 59 | 85 | | 136 | 54 |
| JUNE | 3 | 21 | 38 | 61 | 89 | 113 | | 143 | 74 |
| | 10 | 38 | 57 | 84 | 114 | 139 | | 183 | 100 |
| | 17 | 55 | 82 | 124 | 145 | 168 | | 227 | 130 |
| | 24 | 100 | 119 | 146 | 172 | 213 | | 259 | 162 |
| JULY | 1 | 114 | 141 | 186 | 212 | 256 | | 290 | 202 |
| | 8 | 135 | 184 | 220 | 268 | 316 | | 341 | 246 |
| | 15 | 183 | 231 | 269 | 320 | 366 | | 390 | 294 |
| | 22 | 238 | 273 | 322 | 372 | 418 | | 452 | 346 |
| | 29 | 278 | 309 | 375 | 423 | 484 | | 506 | 397 |
| AUG. | 5 | 328 | 355 | 420 | 481 | 541 | | 571 | 447 |
| | 12 | 355 | 397 | 468 | 514 | 603 | | 627 | 493 |
| | 19 | 363 | 450 | 510 | 547 | 657 | | 694 | 534 |
| | 26 | 380 | 491 | 554 | 602 | 698 | | 747 | 575 |
| SEP. | 2 | 405 | 516 | 582 | 632 | 725 | | 797 | 607 |
| | 9 | 410 | 532 | 594 | 664 | 746 | | 823 | 630 |
| | 16 | 455 | 540 | 605 | 674 | 760 | | 840 | 646 |
| | 23 | 469 | 544 | 618 | 688 | 768 | | 851 | 656 |
| | 30 | 478 | 551 | 629 | 689 | 785 | | 853 | 665 |
| OCT. | 7 | 479 | 552 | 637 | 699 | 800 | | 855 | 672 |
| | 14 | 483 | 560 | 643 | 705 | 801 | | 872 | 678 |
| | 21 | 483 | 562 | 649 | 709 | 802 | | 889 | 683 |
| | 28 | 483 | 563 | 649 | 709 | 803 | | 901 | 684 |

TABLE 20 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 5°C FROM JANUARY 1

HARROW, ONT.

CLASS FREQUENCY AND BOUNDARY

| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|---|
| APR. | 1 | 4 | 12 | 28 | 43 | 66 | | 157 | 41 |
| | 8 | 12 | 26 | 39 | 61 | 84 | | 199 | 59 |
| | 15 | 25 | 43 | 58 | 82 | 127 | | 272 | 83 |
| | 22 | 49 | 63 | 90 | 125 | 181 | | 311 | 118 |
| | 29 | 81 | 107 | 137 | 161 | 232 | | 333 | 160 |
| MAY | 6 | 105 | 155 | 185 | 220 | 304 | | 358 | 215 |
| | 13 | 163 | 204 | 242 | 275 | 355 | | 399 | 268 |
| | 20 | 205 | 265 | 315 | 333 | 429 | | 447 | 336 |
| | 27 | 273 | 335 | 385 | 421 | 504 | | 536 | 410 |
| JUNE | 3 | 342 | 408 | 472 | 508 | 595 | | 619 | 494 |
| | 10 | 427 | 516 | 569 | 609 | 690 | | 736 | 591 |
| | 17 | 553 | 593 | 675 | 714 | 792 | | 836 | 695 |
| | 24 | 637 | 689 | 781 | 834 | 912 | | 942 | 804 |
| JULY | 1 | 754 | 812 | 892 | 958 | 1045 | | 1088 | 927 |
| | 8 | 854 | 918 | 994 | 1072 | 1165 | | 1239 | 1043 |
| | 15 | 969 | 1036 | 1106 | 1189 | 1291 | | 1353 | 1161 |
| | 22 | 1098 | 1156 | 1225 | 1323 | 1421 | | 1488 | 1283 |
| | 29 | 1229 | 1276 | 1355 | 1450 | 1554 | | 1639 | 1409 |
| AUG. | 5 | 1342 | 1393 | 1477 | 1573 | 1692 | | 1753 | 1529 |
| | 12 | 1459 | 1507 | 1593 | 1684 | 1812 | | 1895 | 1646 |
| | 19 | 1565 | 1629 | 1711 | 1794 | 1911 | | 2014 | 1761 |
| | 26 | 1656 | 1737 | 1826 | 1912 | 2023 | | 2120 | 1870 |
| SEP. | 2 | 1758 | 1837 | 1932 | 2044 | 2136 | | 2226 | 1985 |
| | 9 | 1857 | 1944 | 2031 | 2169 | 2250 | | 2313 | 2090 |
| | 16 | 1941 | 2040 | 2124 | 2252 | 2359 | | 2407 | 2181 |
| | 23 | 2008 | 2110 | 2224 | 2319 | 2456 | | 2512 | 2268 |
| | 30 | 2067 | 2168 | 2287 | 2404 | 2514 | | 2586 | 2337 |
| OCT. | 7 | 2128 | 2218 | 2340 | 2482 | 2593 | | 2673 | 2404 |
| | 14 | 2180 | 2268 | 2381 | 2534 | 2678 | | 2717 | 2461 |
| | 21 | 2252 | 2304 | 2422 | 2564 | 2723 | | 2763 | 2511 |
| | 28 | 2295 | 2326 | 2476 | 2593 | 2768 | | 2799 | 2547 |

TABLE 21

FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 10°C FROM JANUARY 1

HARROW, ONT.

| | | CLASS FREQUENCY AND BOUNDARY | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
| APR. | 1 | 0 | 0 | 5 | 8 | 18 | 72 | | 10 |
| | 8 | 2 | 4 | 8 | 13 | 28 | 89 | | 15 |
| | 15 | 4 | 8 | 13 | 24 | 45 | 132 | | 24 |
| | 22 | 11 | 13 | 26 | 42 | 67 | 145 | | 39 |
| | 29 | 19 | 22 | 48 | 68 | 90 | 150 | | 57 |
| MAY | 6 | 24 | 48 | 65 | 89 | 131 | 161 | | 85 |
| | 13 | 42 | 67 | 101 | 125 | 155 | 189 | | 110 |
| | 20 | 72 | 91 | 135 | 151 | 206 | 239 | | 146 |
| | 27 | 105 | 133 | 161 | 205 | 259 | 289 | | 188 |
| JUNE | 3 | 148 | 166 | 213 | 253 | 306 | 354 | | 238 |
| | 10 | 198 | 242 | 280 | 315 | 368 | 430 | | 301 |
| | 17 | 276 | 294 | 356 | 373 | 451 | 499 | | 370 |
| | 24 | 325 | 365 | 431 | 455 | 546 | 579 | | 444 |
| JULY | 1 | 407 | 451 | 506 | 551 | 640 | 668 | | 532 |
| | 8 | 472 | 532 | 578 | 628 | 730 | 784 | | 613 |
| | 15 | 552 | 610 | 659 | 712 | 815 | 863 | | 697 |
| | 22 | 641 | 682 | 734 | 819 | 907 | 963 | | 784 |
| | 29 | 726 | 767 | 827 | 905 | 1013 | 1079 | | 875 |
| AUG. | 5 | 795 | 841 | 901 | 983 | 1094 | 1158 | | 959 |
| | 12 | 883 | 924 | 993 | 1055 | 1179 | 1266 | | 1042 |
| | 19 | 948 | 1012 | 1054 | 1128 | 1267 | 1349 | | 1122 |
| | 26 | 1004 | 1084 | 1144 | 1228 | 1343 | 1421 | | 1196 |
| SEP. | 2 | 1072 | 1152 | 1205 | 1310 | 1424 | 1497 | | 1276 |
| | 9 | 1136 | 1221 | 1273 | 1393 | 1485 | 1567 | | 1346 |
| | 16 | 1187 | 1271 | 1329 | 1459 | 1565 | 1629 | | 1404 |
| | 23 | 1230 | 1312 | 1407 | 1501 | 1616 | 1700 | | 1457 |
| | 30 | 1277 | 1345 | 1449 | 1547 | 1653 | 1743 | | 1495 |
| OCT. | 7 | 1290 | 1381 | 1479 | 1577 | 1696 | 1796 | | 1531 |
| | 14 | 1323 | 1397 | 1510 | 1616 | 1730 | 1811 | | 1559 |
| | 21 | 1351 | 1409 | 1529 | 1629 | 1744 | 1829 | | 1582 |
| | 28 | 1362 | 1416 | 1539 | 1638 | 1775 | 1846 | | 1596 |

TABLE 22 FREQUENCY CLASSES AND 30 -YEAR AVERAGES OF DEGREE DAYS ABOVE 13 °C FROM JANUARY 1

HARROW, ONT.

CLASS FREQUENCY AND BOUNDARY

| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|---|
| APR. | 1 | 0 | 0 | 1 | 2 | 8 | | 38 | 4 |
| | 8 | 0 | 1 | 2 | 5 | 10 | | 46 | 6 |
| | 15 | 1 | 2 | 4 | 10 | 21 | | 73 | 10 |
| | 22 | 2 | 4 | 10 | 20 | 28 | | 79 | 17 |
| | 29 | 3 | 8 | 20 | 30 | 45 | | 80 | 27 |
| MAY | 6 | 9 | 20 | 31 | 45 | 79 | | 105 | 43 |
| | 13 | 15 | 31 | 46 | 60 | 90 | | 121 | 58 |
| | 20 | 33 | 43 | 71 | 80 | 119 | | 165 | 79 |
| | 27 | 54 | 66 | 83 | 108 | 152 | | 196 | 105 |
| JUNE | 3 | 77 | 84 | 117 | 143 | 194 | | 241 | 137 |
| | 10 | 116 | 133 | 158 | 188 | 235 | | 297 | 181 |
| | 17 | 161 | 170 | 210 | 237 | 300 | | 345 | 230 |
| | 24 | 188 | 220 | 262 | 296 | 373 | | 404 | 285 |
| JULY | 1 | 242 | 288 | 330 | 364 | 451 | | 476 | 352 |
| | 8 | 299 | 334 | 387 | 422 | 513 | | 570 | 412 |
| | 15 | 364 | 395 | 442 | 482 | 576 | | 628 | 475 |
| | 22 | 413 | 453 | 498 | 562 | 644 | | 708 | 541 |
| | 29 | 477 | 516 | 570 | 625 | 726 | | 802 | 611 |
| AUG. | 5 | 526 | 582 | 636 | 690 | 794 | | 860 | 675 |
| | 12 | 592 | 644 | 696 | 738 | 855 | | 947 | 736 |
| | 19 | 637 | 704 | 741 | 807 | 921 | | 1013 | 796 |
| | 26 | 673 | 749 | 791 | 871 | 977 | | 1064 | 850 |
| SEP. | 2 | 721 | 808 | 855 | 931 | 1035 | | 1128 | 909 |
| | 9 | 765 | 841 | 895 | 987 | 1082 | | 1180 | 960 |
| | 16 | 799 | 876 | 949 | 1033 | 1143 | | 1221 | 999 |
| | 23 | 823 | 902 | 992 | 1063 | 1172 | | 1273 | 1035 |
| | 30 | 852 | 920 | 1013 | 1095 | 1199 | | 1301 | 1057 |
| OCT. | 7 | 858 | 944 | 1029 | 1111 | 1221 | | 1335 | 1079 |
| | 14 | 877 | 950 | 1034 | 1140 | 1237 | | 1342 | 1095 |
| | 21 | 892 | 958 | 1056 | 1145 | 1253 | | 1351 | 1107 |
| | 28 | 896 | 964 | 1060 | 1150 | 1274 | | 1359 | 1113 |

TABLE 23

FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 5°C FROM JANUARY 1

OTTAWA, ONT.

| | | CLASS FREQUENCY AND BOUNDARY | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
| APR. | 1 | 0 | 0 | 1 | 6 | 19 | 56 | 9 |
| | 8 | 0 | 2 | 6 | 10 | 38 | 73 | 14 |
| | 15 | 1 | 9 | 14 | 30 | 54 | 131 | 29 |
| | 22 | 5 | 19 | 38 | 54 | 84 | 147 | 51 |
| | 29 | 29 | 34 | 68 | 81 | 122 | 162 | 78 |
| MAY | 6 | 45 | 74 | 111 | 128 | 172 | 185 | 119 |
| | 13 | 78 | 99 | 147 | 178 | 218 | 237 | 162 |
| | 20 | 111 | 146 | 210 | 235 | 276 | 296 | 217 |
| | 27 | 145 | 214 | 274 | 302 | 350 | 377 | 281 |
| JUNE | 3 | 224 | 291 | 335 | 374 | 428 | 444 | 352 |
| | 10 | 294 | 364 | 420 | 453 | 512 | 537 | 433 |
| | 17 | 377 | 447 | 496 | 552 | 603 | 635 | 523 |
| | 24 | 472 | 529 | 593 | 649 | 691 | 741 | 618 |
| JULY | 1 | 586 | 627 | 701 | 761 | 798 | 852 | 727 |
| | 8 | 681 | 708 | 804 | 861 | 908 | 982 | 827 |
| | 15 | 784 | 818 | 919 | 976 | 1013 | 1106 | 937 |
| | 22 | 874 | 935 | 1013 | 1092 | 1137 | 1242 | 1047 |
| | 29 | 969 | 1056 | 1121 | 1201 | 1264 | 1358 | 1161 |
| AUG. | 5 | 1055 | 1162 | 1227 | 1300 | 1374 | 1502 | 1266 |
| | 12 | 1171 | 1272 | 1324 | 1405 | 1503 | 1615 | 1371 |
| | 19 | 1275 | 1374 | 1426 | 1496 | 1589 | 1750 | 1471 |
| | 26 | 1345 | 1476 | 1516 | 1584 | 1700 | 1866 | 1565 |
| SEP. | 2 | 1426 | 1555 | 1607 | 1685 | 1800 | 1962 | 1658 |
| | 9 | 1505 | 1627 | 1708 | 1774 | 1871 | 2036 | 1743 |
| | 16 | 1563 | 1685 | 1784 | 1850 | 1943 | 2096 | 1813 |
| | 23 | 1590 | 1751 | 1843 | 1916 | 2006 | 2172 | 1876 |
| | 30 | 1624 | 1792 | 1882 | 1967 | 2047 | 2225 | 1924 |
| OCT. | 7 | 1663 | 1844 | 1925 | 1999 | 2095 | 2268 | 1968 |
| | 14 | 1693 | 1885 | 1960 | 2036 | 2156 | 2330 | 2006 |
| | 21 | 1740 | 1905 | 1989 | 2070 | 2195 | 2353 | 2038 |
| | 28 | 1765 | 1912 | 2013 | 2089 | 2206 | 2365 | 2057 |

TABLE 24

FREQUENCY CLASSES AND 30-YEAR AVERAGES
OF DEGREE DAYS ABOVE 10°C FROM JANUARY 1

OTTAWA, ONT.

CLASS FREQUENCY AND BOUNDARY

| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|---|
| APR. | 1 | 0 | 0 | 0 | 0 | 3 | | 19 | 2 |
| | 8 | 0 | 0 | 0 | 1 | 8 | | 24 | 3 |
| | 15 | 0 | 0 | 2 | 4 | 17 | | 56 | 7 |
| | 22 | 0 | 2 | 7 | 13 | 28 | | 60 | 14 |
| | 29 | 2 | 7 | 16 | 23 | 54 | | 61 | 24 |
| MAY | 6 | 4 | 16 | 33 | 46 | 66 | | 92 | 41 |
| | 13 | 19 | 29 | 47 | 71 | 97 | | 111 | 60 |
| | 20 | 32 | 48 | 75 | 98 | 123 | | 145 | 86 |
| | 27 | 45 | 76 | 102 | 133 | 169 | | 186 | 120 |
| JUNE | 3 | 85 | 118 | 141 | 171 | 212 | | 235 | 159 |
| | 10 | 119 | 154 | 178 | 223 | 270 | | 283 | 206 |
| | 17 | 168 | 210 | 239 | 283 | 327 | | 346 | 262 |
| | 24 | 217 | 257 | 306 | 342 | 385 | | 417 | 322 |
| JULY | 1 | 280 | 320 | 379 | 407 | 461 | | 494 | 396 |
| | 8 | 339 | 375 | 443 | 475 | 536 | | 588 | 461 |
| | 15 | 414 | 457 | 524 | 559 | 606 | | 677 | 536 |
| | 22 | 467 | 530 | 587 | 633 | 690 | | 778 | 611 |
| | 29 | 552 | 606 | 666 | 708 | 789 | | 859 | 690 |
| AUG. | 5 | 608 | 675 | 729 | 777 | 867 | | 968 | 760 |
| | 12 | 689 | 754 | 788 | 845 | 948 | | 1046 | 831 |
| | 19 | 746 | 806 | 864 | 909 | 1014 | | 1146 | 895 |
| | 26 | 794 | 865 | 932 | 960 | 1090 | | 1227 | 955 |
| SEP. | 2 | 841 | 914 | 983 | 1024 | 1149 | | 1289 | 1014 |
| | 9 | 888 | 951 | 1037 | 1075 | 1188 | | 1331 | 1065 |
| | 16 | 918 | 983 | 1080 | 1114 | 1227 | | 1361 | 1104 |
| | 23 | 923 | 1031 | 1119 | 1157 | 1258 | | 1407 | 1137 |
| | 30 | 934 | 1054 | 1131 | 1181 | 1272 | | 1431 | 1158 |
| OCT. | 7 | 947 | 1081 | 1144 | 1207 | 1291 | | 1447 | 1176 |
| | 14 | 958 | 1096 | 1161 | 1213 | 1323 | | 1476 | 1191 |
| | 21 | 979 | 1102 | 1169 | 1218 | 1335 | | 1478 | 1203 |
| | 28 | 987 | 1102 | 1178 | 1221 | 1343 | | 1481 | 1208 |

TABLE 25 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 13°C FROM JANUARY 1

OTTAWA, ONT.

CLASS FREQUENCY AND BOUNDARY

| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|---|
| APR. | 1 | 0 | 0 | 0 | 0 | 1 | | 9 | 1 |
| | 8 | 0 | 0 | 0 | 0 | 3 | | 10 | 1 |
| | 15 | 0 | 0 | 0 | 1 | 8 | | 31 | 3 |
| | 22 | 0 | 0 | 2 | 5 | 13 | | 32 | 6 |
| | 29 | 0 | 1 | 5 | 10 | 29 | | 32 | 11 |
| MAY | 6 | 1 | 5 | 13 | 22 | 34 | | 55 | 20 |
| | 13 | 5 | 11 | 20 | 37 | 50 | | 61 | 30 |
| | 20 | 16 | 19 | 33 | 51 | 69 | | 84 | 43 |
| | 27 | 22 | 31 | 51 | 72 | 95 | | 107 | 63 |
| JUNE | 3 | 34 | 60 | 70 | 93 | 125 | | 149 | 86 |
| | 10 | 54 | 75 | 102 | 128 | 165 | | 179 | 116 |
| | 17 | 82 | 112 | 137 | 162 | 199 | | 219 | 153 |
| | 24 | 108 | 139 | 179 | 213 | 246 | | 268 | 194 |
| JULY | 1 | 151 | 194 | 232 | 261 | 307 | | 324 | 247 |
| | 8 | 190 | 227 | 277 | 305 | 366 | | 398 | 293 |
| | 15 | 244 | 283 | 331 | 359 | 415 | | 467 | 347 |
| | 22 | 279 | 332 | 386 | 421 | 475 | | 547 | 402 |
| | 29 | 342 | 390 | 437 | 475 | 546 | | 607 | 460 |
| AUG. | 5 | 392 | 437 | 482 | 523 | 611 | | 695 | 510 |
| | 12 | 446 | 492 | 523 | 563 | 660 | | 753 | 560 |
| | 19 | 478 | 528 | 573 | 609 | 715 | | 832 | 605 |
| | 26 | 508 | 569 | 615 | 644 | 771 | | 893 | 646 |
| SEP. | 2 | 543 | 597 | 662 | 694 | 814 | | 936 | 686 |
| | 9 | 567 | 617 | 691 | 725 | 839 | | 962 | 719 |
| | 16 | 590 | 638 | 723 | 745 | 862 | | 979 | 742 |
| | 23 | 594 | 668 | 743 | 769 | 877 | | 1011 | 762 |
| | 30 | 598 | 680 | 751 | 781 | 883 | | 1021 | 772 |
| OCT. | 7 | 603 | 698 | 758 | 792 | 891 | | 1028 | 782 |
| | 14 | 609 | 704 | 759 | 794 | 908 | | 1043 | 789 |
| | 21 | 619 | 707 | 768 | 802 | 918 | | 1043 | 794 |
| | 28 | 622 | 707 | 774 | 802 | 921 | | 1044 | 796 |

TABLE 26 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 5°C FROM JANUARY 1

FREDERICTON, N.B.

CLASS FREQUENCY AND BOUNDARY

| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|---|
| APR. | 1 | 1 | 2 | 5 | 8 | 16 | 32 | 8 | |
| | 8 | 2 | 4 | 6 | 12 | 28 | 43 | 13 | |
| | 15 | 4 | 8 | 12 | 19 | 37 | 88 | 21 | |
| | 22 | 9 | 14 | 28 | 36 | 51 | 102 | 34 | |
| | 29 | 17 | 27 | 42 | 59 | 68 | 117 | 51 | |
| MAY | 6 | 32 | 41 | 70 | 82 | 106 | 134 | 75 | |
| | 13 | 48 | 70 | 98 | 122 | 141 | 175 | 109 | |
| | 20 | 67 | 112 | 141 | 165 | 187 | 213 | 150 | |
| | 27 | 86 | 168 | 193 | 222 | 244 | 282 | 203 | |
| JUNE | 3 | 130 | 221 | 250 | 276 | 312 | 339 | 262 | |
| | 10 | 222 | 282 | 308 | 339 | 373 | 418 | 324 | |
| | 17 | 288 | 341 | 381 | 415 | 461 | 521 | 398 | |
| | 24 | 359 | 425 | 464 | 492 | 533 | 604 | 479 | |
| JULY | 1 | 467 | 509 | 561 | 591 | 628 | 698 | 571 | |
| | 8 | 561 | 593 | 642 | 678 | 727 | 798 | 661 | |
| | 15 | 655 | 693 | 740 | 771 | 833 | 886 | 761 | |
| | 22 | 743 | 803 | 845 | 871 | 937 | 976 | 861 | |
| | 29 | 834 | 906 | 941 | 980 | 1035 | 1075 | 962 | |
| AUG. | 5 | 911 | 1005 | 1043 | 1082 | 1133 | 1177 | 1060 | |
| | 12 | 1009 | 1100 | 1130 | 1174 | 1239 | 1287 | 1156 | |
| | 19 | 1098 | 1184 | 1228 | 1255 | 1348 | 1392 | 1251 | |
| | 26 | 1159 | 1269 | 1315 | 1340 | 1432 | 1467 | 1334 | |
| SEP. | 2 | 1229 | 1347 | 1385 | 1429 | 1532 | 1570 | 1418 | |
| | 9 | 1307 | 1422 | 1458 | 1513 | 1609 | 1639 | 1492 | |
| | 16 | 1362 | 1467 | 1513 | 1583 | 1669 | 1704 | 1554 | |
| | 23 | 1389 | 1519 | 1582 | 1640 | 1720 | 1773 | 1610 | |
| | 30 | 1411 | 1557 | 1634 | 1695 | 1769 | 1824 | 1656 | |
| OCT. | 7 | 1438 | 1593 | 1664 | 1734 | 1801 | 1881 | 1693 | |
| | 14 | 1455 | 1620 | 1689 | 1774 | 1853 | 1904 | 1726 | |
| | 21 | 1497 | 1667 | 1724 | 1793 | 1869 | 1912 | 1753 | |
| | 28 | 1520 | 1678 | 1737 | 1806 | 1880 | 1925 | 1770 | |

TABLE 27 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 10°C FROM JANUARY 1

FREDERICTON, N.B.

| | | CLASS FREQUENCY AND BOUNDARY | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
| APR. | 1 | 0 | 0 | 0 | 0 | 1 | | 7 | 1 |
| | 8 | 0 | 0 | 0 | 1 | 4 | | 10 | 1 |
| | 15 | 0 | 0 | 0 | 2 | 6 | | 34 | 3 |
| | 22 | 0 | 1 | 2 | 6 | 12 | | 36 | 6 |
| | 29 | 1 | 2 | 8 | 10 | 17 | | 39 | 10 |
| MAY | 6 | 4 | 6 | 12 | 21 | 32 | | 49 | 19 |
| | 13 | 7 | 14 | 23 | 35 | 54 | | 62 | 31 |
| | 20 | 11 | 27 | 39 | 54 | 67 | | 87 | 48 |
| | 27 | 15 | 52 | 69 | 81 | 99 | | 126 | 73 |
| JUNE | 3 | 34 | 75 | 91 | 104 | 137 | | 164 | 102 |
| | 10 | 77 | 103 | 120 | 136 | 177 | | 206 | 134 |
| | 17 | 107 | 139 | 156 | 180 | 228 | | 267 | 175 |
| | 24 | 145 | 181 | 211 | 233 | 266 | | 316 | 223 |
| JULY | 1 | 218 | 233 | 271 | 288 | 321 | | 375 | 279 |
| | 8 | 271 | 287 | 319 | 346 | 390 | | 440 | 335 |
| | 15 | 335 | 364 | 383 | 411 | 458 | | 494 | 400 |
| | 22 | 380 | 425 | 452 | 468 | 525 | | 549 | 465 |
| | 29 | 425 | 486 | 517 | 542 | 586 | | 625 | 532 |
| AUG. | 5 | 477 | 549 | 576 | 604 | 664 | | 692 | 595 |
| | 12 | 524 | 599 | 648 | 664 | 722 | | 767 | 656 |
| | 19 | 577 | 647 | 699 | 726 | 796 | | 839 | 716 |
| | 26 | 619 | 693 | 750 | 774 | 851 | | 887 | 766 |
| SEP. | 2 | 671 | 744 | 794 | 830 | 908 | | 946 | 815 |
| | 9 | 714 | 779 | 828 | 877 | 947 | | 984 | 856 |
| | 16 | 742 | 798 | 856 | 923 | 986 | | 1029 | 888 |
| | 23 | 748 | 817 | 899 | 947 | 1007 | | 1065 | 915 |
| | 30 | 756 | 837 | 918 | 970 | 1028 | | 1077 | 935 |
| OCT. | 7 | 760 | 847 | 926 | 985 | 1040 | | 1106 | 949 |
| | 14 | 763 | 865 | 932 | 1001 | 1066 | | 1111 | 960 |
| | 21 | 781 | 879 | 950 | 1011 | 1076 | | 1111 | 969 |
| | 28 | 788 | 880 | 952 | 1014 | 1078 | | 1114 | 973 |

TABLE 28

FREQUENCY CLASSES AND 30-YEAR AVERAGES
OF DEGREE DAYS ABOVE 13°C FROM JANUARY 1

FREDERICTON, N.B.

| | | CLASS FREQUENCY AND BOUNDARY | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
| APR. | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| | 8 | 0 | 0 | 0 | 0 | 1 | 4 | 0 |
| | 15 | 0 | 0 | 0 | 0 | 2 | 18 | 1 |
| | 22 | 0 | 0 | 0 | 1 | 5 | 19 | 2 |
| | 29 | 0 | 0 | 2 | 3 | 7 | 19 | 4 |
| MAY | 6 | 0 | 1 | 3 | 8 | 16 | 26 | 7 |
| | 13 | 1 | 4 | 8 | 14 | 28 | 31 | 13 |
| | 20 | 2 | 10 | 17 | 26 | 33 | 46 | 21 |
| | 27 | 3 | 22 | 29 | 41 | 55 | 67 | 36 |
| JUNE | 3 | 14 | 31 | 43 | 55 | 77 | 94 | 52 |
| | 10 | 31 | 48 | 60 | 74 | 103 | 120 | 70 |
| | 17 | 48 | 72 | 82 | 103 | 135 | 158 | 95 |
| | 24 | 72 | 94 | 117 | 131 | 158 | 189 | 126 |
| JULY | 1 | 104 | 133 | 156 | 168 | 196 | 229 | 163 |
| | 8 | 135 | 164 | 185 | 208 | 245 | 273 | 200 |
| | 15 | 187 | 213 | 233 | 252 | 292 | 309 | 245 |
| | 22 | 220 | 253 | 282 | 295 | 335 | 352 | 290 |
| | 29 | 247 | 292 | 325 | 351 | 377 | 416 | 337 |
| AUG. | 5 | 279 | 335 | 368 | 389 | 427 | 464 | 380 |
| | 12 | 306 | 364 | 418 | 432 | 470 | 518 | 422 |
| | 19 | 340 | 394 | 448 | 478 | 530 | 572 | 462 |
| | 26 | 364 | 421 | 480 | 504 | 568 | 602 | 493 |
| SEP. | 2 | 407 | 453 | 506 | 542 | 595 | 641 | 525 |
| | 9 | 424 | 471 | 521 | 578 | 619 | 664 | 549 |
| | 16 | 437 | 480 | 537 | 597 | 639 | 686 | 567 |
| | 23 | 440 | 487 | 564 | 616 | 661 | 707 | 582 |
| | 30 | 443 | 500 | 567 | 627 | 668 | 714 | 591 |
| OCT. | 7 | 450 | 502 | 574 | 635 | 674 | 729 | 598 |
| | 14 | 450 | 508 | 579 | 639 | 686 | 730 | 602 |
| | 21 | 453 | 514 | 584 | 640 | 687 | 730 | 606 |
| | 28 | 453 | 514 | 584 | 642 | 689 | 731 | 607 |

TABLE 29 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 5°C FROM JANUARY 1

KENTVILLE, N.S.

CLASS FREQUENCY AND BOUNDARY

| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|---|
| APR. | 1 | 1 | 3 | 10 | 16 | 31 | | 51 | 16 |
| | 8 | 1 | 6 | 16 | 22 | 42 | | 76 | 23 |
| | 15 | 3 | 11 | 22 | 33 | 53 | | 95 | 31 |
| | 22 | 10 | 18 | 38 | 53 | 69 | | 111 | 45 |
| | 29 | 16 | 25 | 51 | 69 | 95 | | 121 | 61 |
| MAY | 6 | 28 | 50 | 74 | 92 | 126 | | 149 | 85 |
| | 13 | 51 | 71 | 108 | 128 | 168 | | 206 | 118 |
| | 20 | 77 | 104 | 143 | 172 | 210 | | 242 | 157 |
| | 27 | 96 | 168 | 197 | 223 | 266 | | 281 | 210 |
| JUNE | 3 | 135 | 235 | 259 | 282 | 312 | | 350 | 266 |
| | 10 | 225 | 283 | 317 | 338 | 370 | | 429 | 327 |
| | 17 | 301 | 344 | 388 | 409 | 444 | | 500 | 398 |
| | 24 | 382 | 409 | 467 | 480 | 539 | | 586 | 477 |
| JULY | 1 | 471 | 501 | 559 | 583 | 626 | | 697 | 567 |
| | 8 | 555 | 578 | 647 | 673 | 721 | | 790 | 658 |
| | 15 | 666 | 688 | 750 | 774 | 814 | | 891 | 759 |
| | 22 | 750 | 779 | 852 | 874 | 926 | | 991 | 860 |
| | 29 | 843 | 883 | 951 | 978 | 1033 | | 1091 | 962 |
| AUG. | 5 | 914 | 986 | 1052 | 1081 | 1129 | | 1203 | 1062 |
| | 12 | 1006 | 1074 | 1151 | 1187 | 1234 | | 1295 | 1160 |
| | 19 | 1098 | 1161 | 1240 | 1286 | 1347 | | 1402 | 1257 |
| | 26 | 1170 | 1248 | 1324 | 1360 | 1440 | | 1501 | 1343 |
| SEP. | 2 | 1244 | 1332 | 1404 | 1467 | 1520 | | 1605 | 1428 |
| | 9 | 1325 | 1399 | 1475 | 1540 | 1600 | | 1687 | 1504 |
| | 16 | 1389 | 1461 | 1540 | 1614 | 1676 | | 1769 | 1574 |
| | 23 | 1429 | 1515 | 1610 | 1673 | 1762 | | 1824 | 1635 |
| | 30 | 1454 | 1563 | 1656 | 1739 | 1801 | | 1882 | 1689 |
| OCT. | 7 | 1492 | 1611 | 1694 | 1781 | 1841 | | 1915 | 1732 |
| | 14 | 1519 | 1640 | 1737 | 1811 | 1895 | | 1936 | 1772 |
| | 21 | 1554 | 1681 | 1776 | 1854 | 1933 | | 1968 | 1805 |
| | 28 | 1580 | 1697 | 1805 | 1870 | 1962 | | 1984 | 1829 |

TABLE 30

FREQUENCY CLASSES AND 30-YEAR AVERAGES
OF DEGREE DAYS ABOVE 10°C FROM JANUARY 1

KENTVILLE, N.S.

CLASS FREQUENCY AND BOUNDARY

| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|---|
| APR. | 1 | 0 | 0 | 0 | 2 | 5 | 8 | 2 | |
| | 8 | 0 | 0 | 1 | 2 | 7 | 15 | 3 | |
| | 15 | 0 | 0 | 2 | 5 | 8 | 35 | 5 | |
| | 22 | 0 | 1 | 4 | 9 | 15 | 39 | 9 | |
| | 29 | 1 | 3 | 9 | 15 | 18 | 40 | 12 | |
| MAY | 6 | 3 | 6 | 16 | 20 | 37 | 47 | 20 | |
| | 13 | 7 | 13 | 25 | 34 | 54 | 72 | 32 | |
| | 20 | 12 | 21 | 43 | 52 | 70 | 92 | 47 | |
| | 27 | 16 | 45 | 68 | 78 | 93 | 116 | 71 | |
| JUNE | 3 | 32 | 74 | 90 | 104 | 123 | 157 | 97 | |
| | 10 | 87 | 104 | 117 | 135 | 155 | 203 | 128 | |
| | 17 | 113 | 134 | 154 | 169 | 200 | 241 | 167 | |
| | 24 | 158 | 179 | 199 | 212 | 257 | 294 | 212 | |
| JULY | 1 | 200 | 232 | 249 | 277 | 306 | 370 | 268 | |
| | 8 | 245 | 280 | 310 | 337 | 363 | 428 | 324 | |
| | 15 | 322 | 345 | 378 | 401 | 430 | 494 | 390 | |
| | 22 | 371 | 396 | 446 | 470 | 509 | 559 | 457 | |
| | 29 | 425 | 458 | 514 | 536 | 580 | 624 | 524 | |
| AUG. | 5 | 488 | 526 | 570 | 602 | 660 | 700 | 589 | |
| | 12 | 545 | 574 | 637 | 678 | 732 | 762 | 653 | |
| | 19 | 604 | 624 | 685 | 744 | 812 | 830 | 715 | |
| | 26 | 643 | 675 | 735 | 787 | 866 | 894 | 767 | |
| SEP. | 2 | 683 | 728 | 782 | 845 | 911 | 963 | 818 | |
| | 9 | 732 | 764 | 818 | 893 | 963 | 1011 | 861 | |
| | 16 | 766 | 795 | 863 | 937 | 1002 | 1059 | 899 | |
| | 23 | 779 | 816 | 902 | 965 | 1043 | 1083 | 930 | |
| | 30 | 785 | 842 | 931 | 992 | 1072 | 1110 | 955 | |
| OCT. | 7 | 796 | 856 | 947 | 1009 | 1085 | 1118 | 972 | |
| | 14 | 806 | 861 | 960 | 1031 | 1110 | 1121 | 988 | |
| | 21 | 819 | 879 | 973 | 1033 | 1119 | 1147 | 1000 | |
| | 28 | 829 | 883 | 981 | 1035 | 1125 | 1158 | 1007 | |

TABLE 31 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 13°C FROM JANUARY 1

KENTVILLE, N.S.

CLASS FREQUENCY AND BOUNDARY

| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|---|
| APR. | 1 | 0 | 0 | 0 | 0 | 1 | | 3 | 0 |
| | 8 | 0 | 0 | 0 | 0 | 2 | | 6 | 1 |
| | 15 | 0 | 0 | 0 | 1 | 2 | | 17 | 1 |
| | 22 | 0 | 0 | 1 | 2 | 6 | | 19 | 3 |
| | 29 | 0 | 0 | 3 | 3 | 8 | | 19 | 4 |
| MAY | 6 | 0 | 1 | 4 | 7 | 16 | | 24 | 7 |
| | 13 | 1 | 2 | 8 | 17 | 24 | | 39 | 13 |
| | 20 | 2 | 5 | 16 | 23 | 29 | | 47 | 19 |
| | 27 | 3 | 15 | 29 | 37 | 46 | | 60 | 32 |
| JUNE | 3 | 11 | 30 | 41 | 50 | 61 | | 85 | 46 |
| | 10 | 41 | 47 | 56 | 67 | 81 | | 114 | 64 |
| | 17 | 52 | 64 | 75 | 92 | 114 | | 137 | 87 |
| | 24 | 74 | 91 | 104 | 117 | 146 | | 170 | 115 |
| JULY | 1 | 97 | 123 | 141 | 161 | 183 | | 225 | 151 |
| | 8 | 125 | 157 | 178 | 197 | 226 | | 263 | 189 |
| | 15 | 179 | 203 | 225 | 244 | 272 | | 308 | 235 |
| | 22 | 209 | 239 | 268 | 294 | 324 | | 353 | 282 |
| | 29 | 243 | 280 | 317 | 337 | 374 | | 399 | 329 |
| AUG. | 5 | 288 | 317 | 359 | 383 | 432 | | 458 | 374 |
| | 12 | 323 | 346 | 401 | 437 | 485 | | 520 | 418 |
| | 19 | 364 | 377 | 428 | 485 | 543 | | 561 | 461 |
| | 26 | 389 | 406 | 463 | 510 | 578 | | 600 | 493 |
| SEP. | 2 | 424 | 443 | 497 | 545 | 615 | | 636 | 527 |
| | 9 | 450 | 463 | 527 | 576 | 648 | | 667 | 552 |
| | 16 | 468 | 479 | 544 | 602 | 673 | | 714 | 575 |
| | 23 | 474 | 487 | 568 | 625 | 694 | | 725 | 593 |
| | 30 | 475 | 500 | 583 | 641 | 710 | | 726 | 606 |
| OCT. | 7 | 482 | 505 | 595 | 655 | 715 | | 739 | 613 |
| | 14 | 487 | 506 | 596 | 658 | 720 | | 746 | 620 |
| | 21 | 491 | 515 | 603 | 659 | 725 | | 765 | 625 |
| | 28 | 491 | 515 | 605 | 662 | 726 | | 770 | 628 |

TABLE 32 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 5°C FROM JANUARY 1

CHARLOTTETOWN, P.E.I.

| | | CLASS FREQUENCY AND BOUNDARY | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
| APR. | 1 | 0 | 1 | 2 | 4 | 12 | 18 | 18 | 5 |
| | 8 | 0 | 1 | 3 | 7 | 16 | 31 | 31 | 8 |
| | 15 | 1 | 2 | 6 | 10 | 27 | 56 | 56 | 12 |
| | 22 | 2 | 5 | 11 | 21 | 38 | 71 | 71 | 20 |
| | 29 | 3 | 11 | 23 | 32 | 62 | 75 | 75 | 31 |
| MAY | 6 | 8 | 24 | 34 | 53 | 81 | 98 | 98 | 48 |
| | 13 | 23 | 38 | 61 | 81 | 114 | 128 | 128 | 73 |
| | 20 | 41 | 67 | 89 | 117 | 146 | 175 | 175 | 105 |
| | 27 | 55 | 105 | 135 | 162 | 195 | 242 | 242 | 150 |
| JUNE | 3 | 79 | 155 | 188 | 203 | 255 | 285 | 285 | 198 |
| | 10 | 169 | 214 | 232 | 258 | 303 | 355 | 355 | 252 |
| | 17 | 228 | 271 | 288 | 326 | 374 | 435 | 435 | 318 |
| | 24 | 301 | 336 | 369 | 401 | 447 | 516 | 516 | 394 |
| JULY | 1 | 390 | 415 | 463 | 490 | 543 | 616 | 616 | 478 |
| | 8 | 453 | 497 | 558 | 582 | 635 | 729 | 729 | 568 |
| | 15 | 519 | 599 | 639 | 687 | 737 | 827 | 827 | 668 |
| | 22 | 597 | 704 | 742 | 792 | 832 | 922 | 922 | 769 |
| | 29 | 678 | 805 | 835 | 896 | 936 | 1021 | 1021 | 871 |
| AUG. | 5 | 775 | 905 | 943 | 1005 | 1044 | 1116 | 1116 | 971 |
| | 12 | 866 | 992 | 1045 | 1105 | 1155 | 1214 | 1214 | 1071 |
| | 19 | 956 | 1073 | 1150 | 1215 | 1262 | 1329 | 1329 | 1169 |
| | 26 | 1029 | 1145 | 1238 | 1294 | 1347 | 1429 | 1429 | 1256 |
| SEP. | 2 | 1128 | 1223 | 1322 | 1376 | 1437 | 1539 | 1539 | 1342 |
| | 9 | 1193 | 1289 | 1401 | 1453 | 1521 | 1621 | 1621 | 1420 |
| | 16 | 1260 | 1353 | 1463 | 1521 | 1621 | 1705 | 1705 | 1489 |
| | 23 | 1303 | 1403 | 1525 | 1577 | 1677 | 1758 | 1758 | 1551 |
| | 30 | 1347 | 1448 | 1569 | 1635 | 1724 | 1819 | 1819 | 1604 |
| OCT. | 7 | 1396 | 1485 | 1612 | 1685 | 1787 | 1861 | 1861 | 1648 |
| | 14 | 1419 | 1506 | 1650 | 1724 | 1824 | 1902 | 1902 | 1685 |
| | 21 | 1448 | 1542 | 1692 | 1748 | 1853 | 1917 | 1917 | 1716 |
| | 28 | 1461 | 1568 | 1702 | 1774 | 1883 | 1965 | 1965 | 1737 |

TABLE 33 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 10°C FROM JANUARY 1

CHARLOTTETOWN, P.E.I.

CLASS FREQUENCY AND BOUNDARY

| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
|---|---|---|---|---|---|---|---|---|---|
| APR. | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 0 |
| | 8 | 0 | 0 | 0 | 0 | 2 | 3 | 3 | 0 |
| | 15 | 0 | 0 | 0 | 0 | 2 | 17 | 17 | 1 |
| | 22 | 0 | 0 | 0 | 3 | 6 | 20 | 20 | 3 |
| | 29 | 0 | 0 | 1 | 5 | 9 | 21 | 21 | 5 |
| MAY | 6 | 0 | 2 | 5 | 9 | 20 | 37 | 37 | 10 |
| | 13 | 2 | 3 | 13 | 19 | 33 | 47 | 47 | 17 |
| | 20 | 4 | 9 | 22 | 29 | 43 | 73 | 73 | 27 |
| | 27 | 6 | 23 | 41 | 52 | 68 | 106 | 106 | 46 |
| JUNE | 3 | 15 | 39 | 59 | 70 | 98 | 124 | 124 | 66 |
| | 10 | 52 | 64 | 76 | 92 | 127 | 161 | 161 | 89 |
| | 17 | 67 | 93 | 105 | 122 | 170 | 204 | 204 | 123 |
| | 24 | 116 | 127 | 147 | 175 | 208 | 251 | 251 | 165 |
| JULY | 1 | 143 | 174 | 195 | 220 | 257 | 315 | 315 | 215 |
| | 8 | 185 | 220 | 253 | 281 | 313 | 393 | 393 | 270 |
| | 15 | 216 | 289 | 320 | 351 | 377 | 457 | 457 | 335 |
| | 22 | 260 | 350 | 390 | 410 | 448 | 516 | 516 | 400 |
| | 29 | 306 | 415 | 450 | 490 | 525 | 580 | 580 | 467 |
| AUG. | 5 | 368 | 476 | 514 | 556 | 606 | 644 | 644 | 533 |
| | 12 | 423 | 518 | 579 | 619 | 677 | 708 | 708 | 598 |
| | 19 | 479 | 580 | 634 | 684 | 759 | 788 | 788 | 661 |
| | 26 | 518 | 625 | 696 | 746 | 810 | 853 | 853 | 713 |
| SEP. | 2 | 582 | 661 | 746 | 792 | 857 | 928 | 928 | 764 |
| | 9 | 613 | 699 | 794 | 836 | 913 | 975 | 975 | 808 |
| | 16 | 644 | 722 | 820 | 875 | 970 | 1024 | 1024 | 845 |
| | 23 | 659 | 754 | 847 | 902 | 1003 | 1044 | 1044 | 874 |
| | 30 | 672 | 768 | 862 | 951 | 1015 | 1074 | 1074 | 898 |
| OCT. | 7 | 691 | 781 | 872 | 969 | 1039 | 1085 | 1085 | 913 |
| | 14 | 695 | 789 | 893 | 976 | 1050 | 1096 | 1096 | 926 |
| | 21 | 701 | 805 | 900 | 987 | 1068 | 1098 | 1098 | 936 |
| | 28 | 702 | 816 | 901 | 995 | 1076 | 1116 | 1116 | 941 |

TABLE 34 FREQUENCY CLASSES AND 30-YEAR AVERAGES OF DEGREE DAYS ABOVE 15°C FROM JANUARY 1

CHARLOTTETOWN, P.E.I.

| | | CLASS FREQUENCY AND BOUNDARY | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | RECORD LOW | MB | B | NORMAL | A | MA | RECORD HIGH | DAILY MEAN |
| APR. | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 15 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 |
| | 22 | 0 | 0 | 0 | 0 | 2 | 8 | 1 | |
| | 29 | 0 | 0 | 0 | 1 | 2 | 9 | 1 | |
| MAY | 6 | 0 | 0 | 1 | 2 | 9 | 20 | 3 | |
| | 13 | 0 | 0 | 2 | 6 | 14 | 24 | 6 | |
| | 20 | 0 | 2 | 7 | 11 | 19 | 36 | 10 | |
| | 27 | 0 | 8 | 18 | 20 | 32 | 52 | 19 | |
| JUNE | 3 | 5 | 13 | 25 | 30 | 50 | 66 | 29 | |
| | 10 | 19 | 23 | 34 | 42 | 66 | 87 | 41 | |
| | 17 | 27 | 39 | 49 | 60 | 98 | 114 | 59 | |
| | 24 | 45 | 61 | 73 | 90 | 120 | 136 | 84 | |
| JULY | 1 | 58 | 88 | 102 | 117 | 147 | 185 | 115 | |
| | 8 | 93 | 112 | 138 | 157 | 186 | 237 | 150 | |
| | 15 | 106 | 159 | 182 | 203 | 235 | 279 | 195 | |
| | 22 | 131 | 200 | 230 | 248 | 285 | 318 | 240 | |
| | 29 | 157 | 241 | 273 | 302 | 332 | 362 | 286 | |
| AUG. | 5 | 199 | 285 | 315 | 346 | 392 | 411 | 331 | |
| | 12 | 233 | 311 | 363 | 388 | 441 | 472 | 375 | |
| | 19 | 269 | 353 | 403 | 433 | 498 | 528 | 418 | |
| | 26 | 290 | 379 | 435 | 465 | 541 | 559 | 451 | |
| SEP. | 2 | 333 | 397 | 466 | 500 | 576 | 613 | 483 | |
| | 9 | 348 | 416 | 490 | 521 | 599 | 641 | 508 | |
| | 16 | 360 | 426 | 506 | 553 | 621 | 672 | 528 | |
| | 23 | 365 | 445 | 518 | 568 | 656 | 682 | 544 | |
| | 30 | 368 | 454 | 521 | 596 | 668 | 692 | 555 | |
| OCT. | 7 | 375 | 459 | 522 | 601 | 676 | 695 | 561 | |
| | 14 | 376 | 461 | 531 | 603 | 680 | 700 | 566 | |
| | 21 | 376 | 468 | 532 | 608 | 680 | 710 | 569 | |
| | 28 | 376 | 470 | 533 | 610 | 687 | 713 | 571 | |

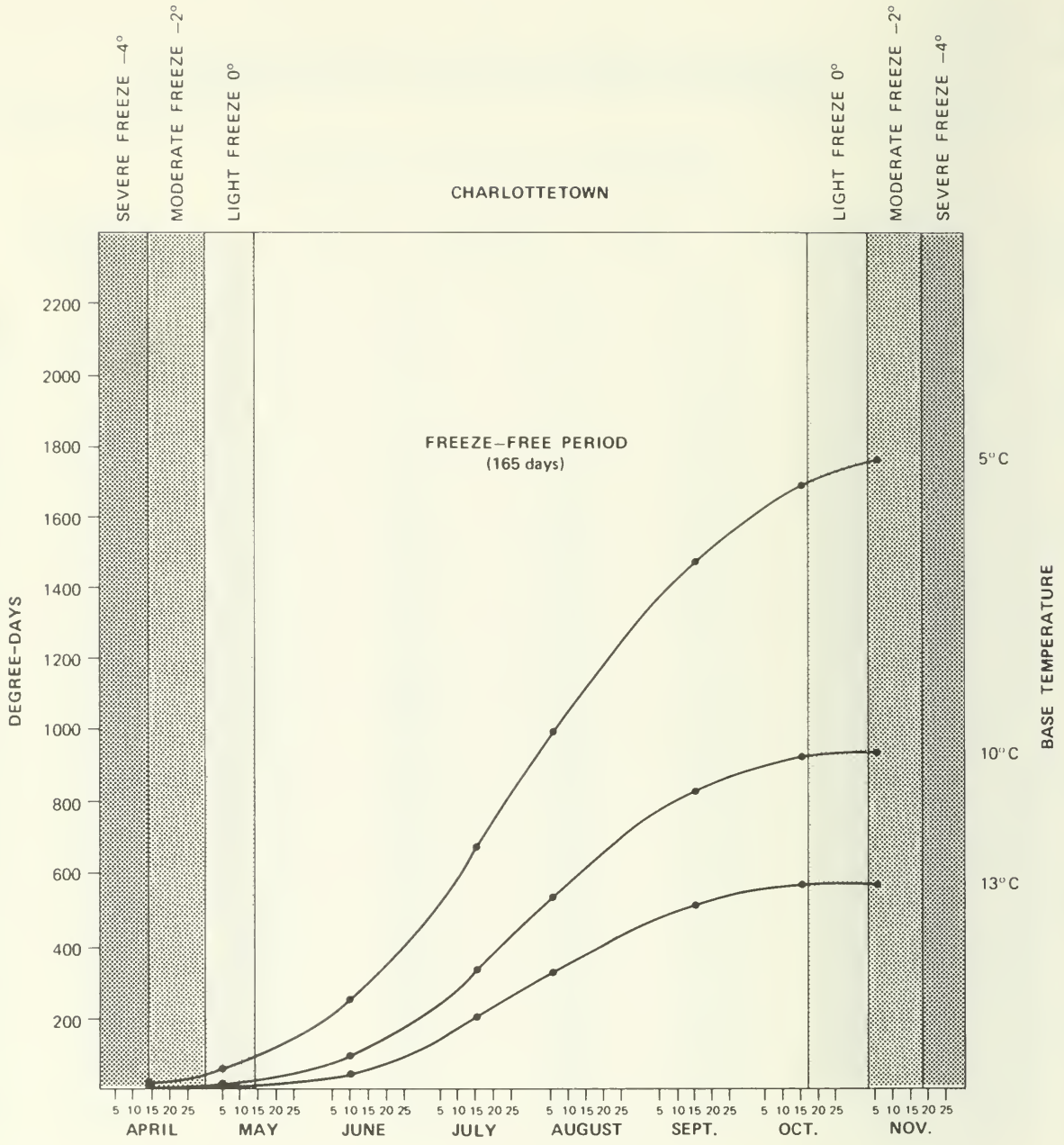



Fig. 2. Average seasonal growing degree-day accumulations (5, 10, 13°C) and average freeze dates of a given severity at Charlottetown, P.E.I.

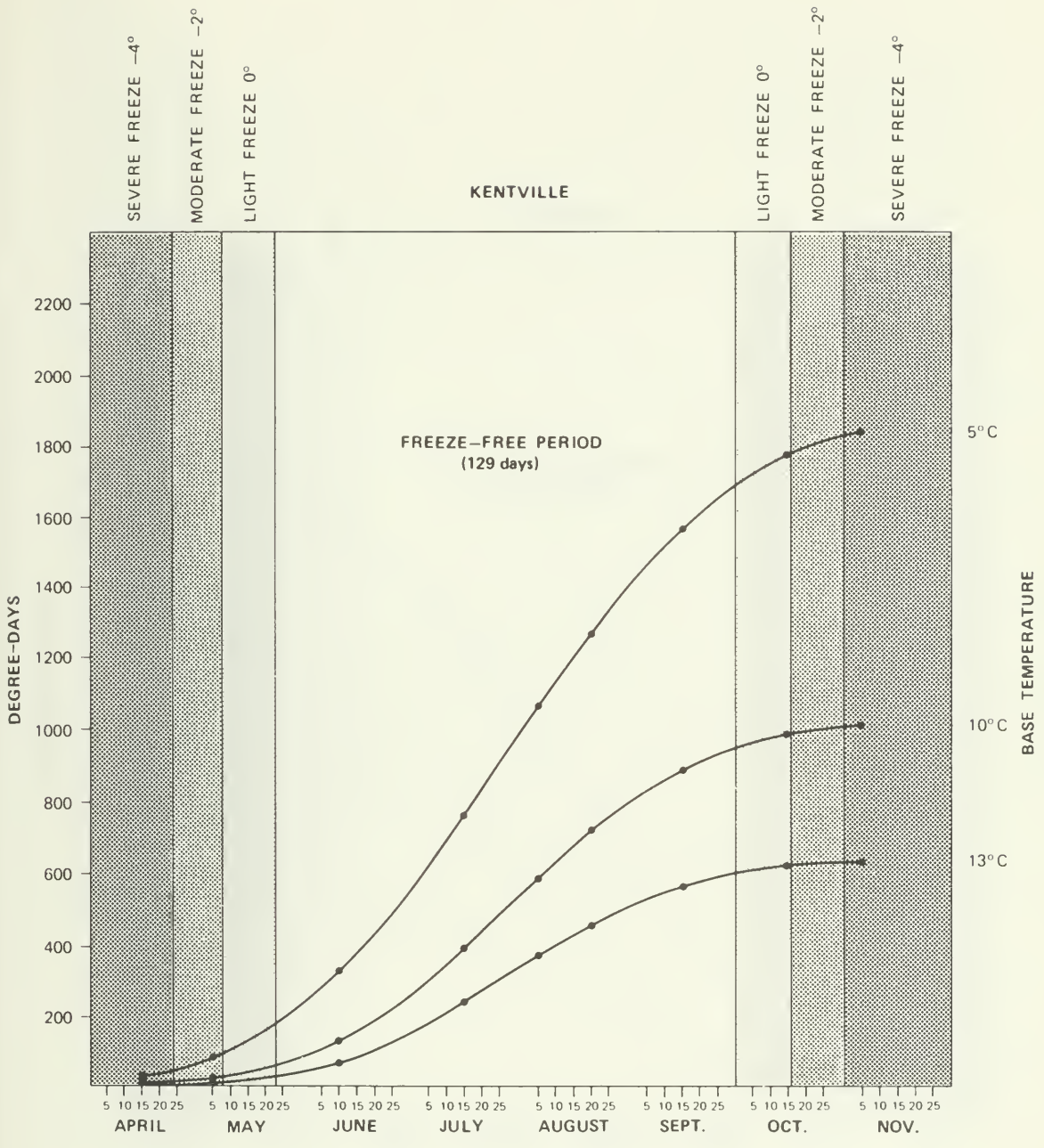



Fig. 3. Average seasonal growing degree-day accumulations (5, 10, 13°C) and average freeze dates of a given severity at Kentville, N.S.

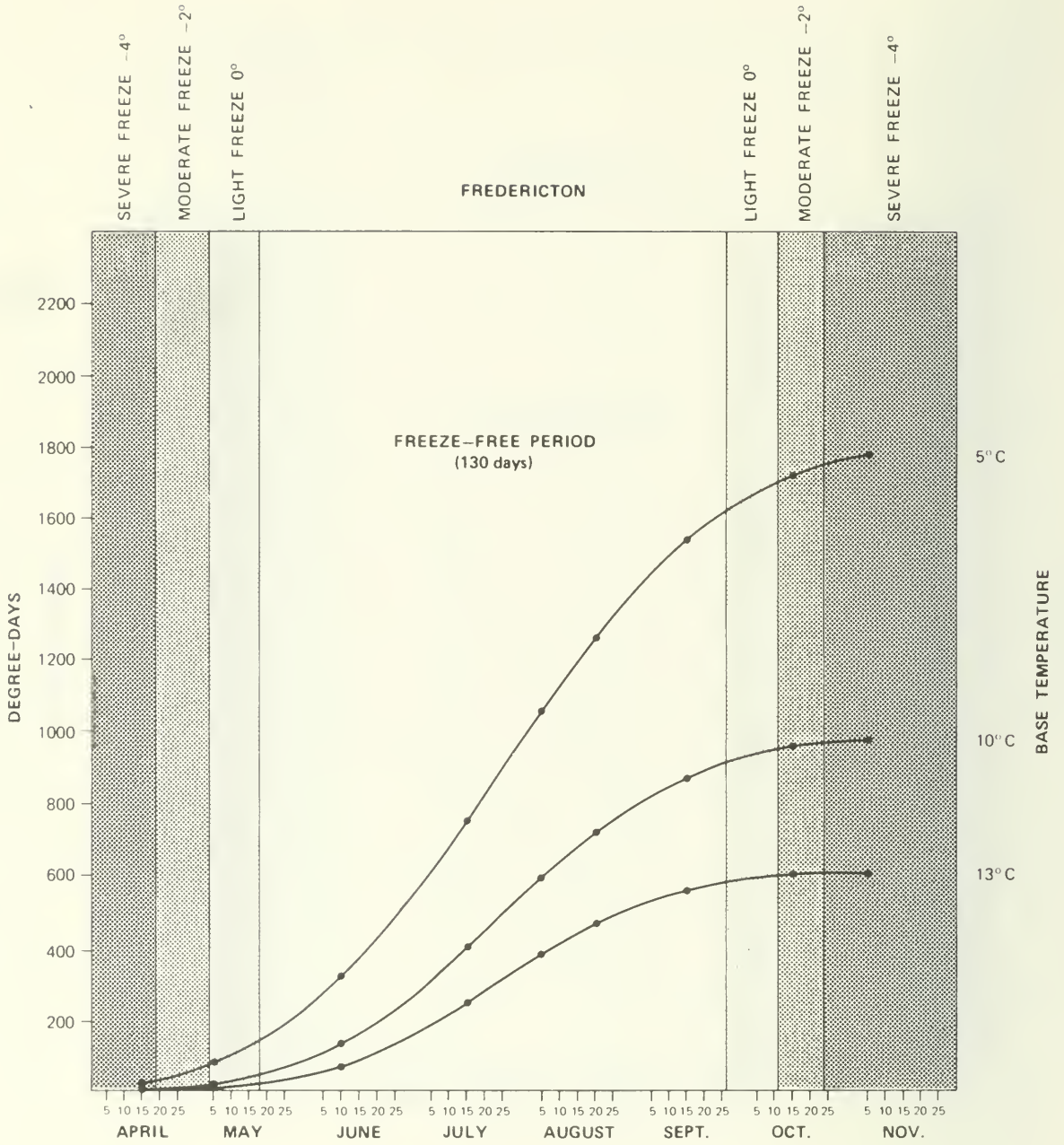



Fig. 4. Average seasonal growing degree-day accumulations (5, 10, 13°C) and average freeze dates of a given severity at Fredericton, N.B.

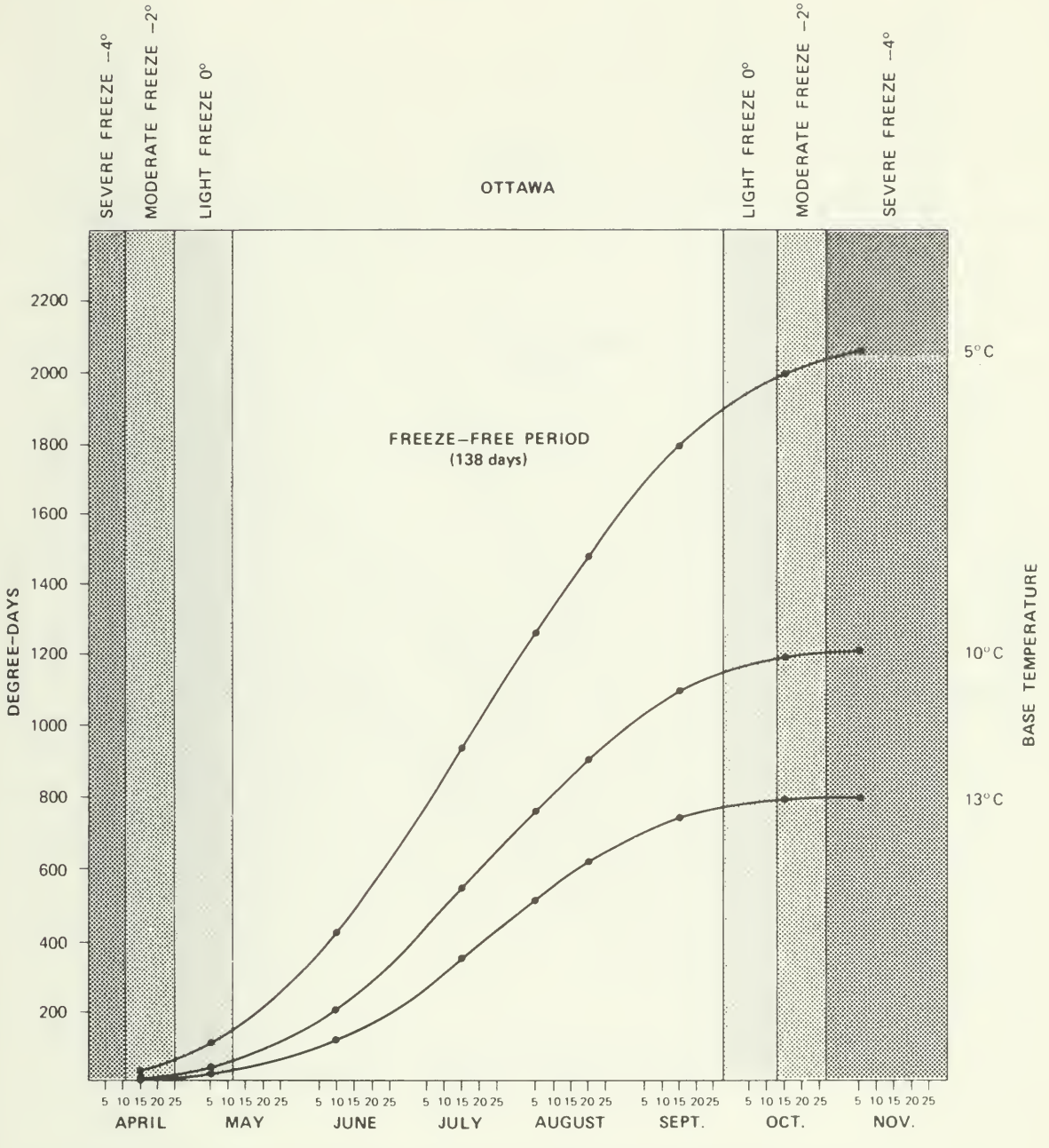



Fig. 5. Average seasonal growing degree-day accumulations (5, 10, 13°C) and average freeze dates of a given severity at Ottawa, Ont.

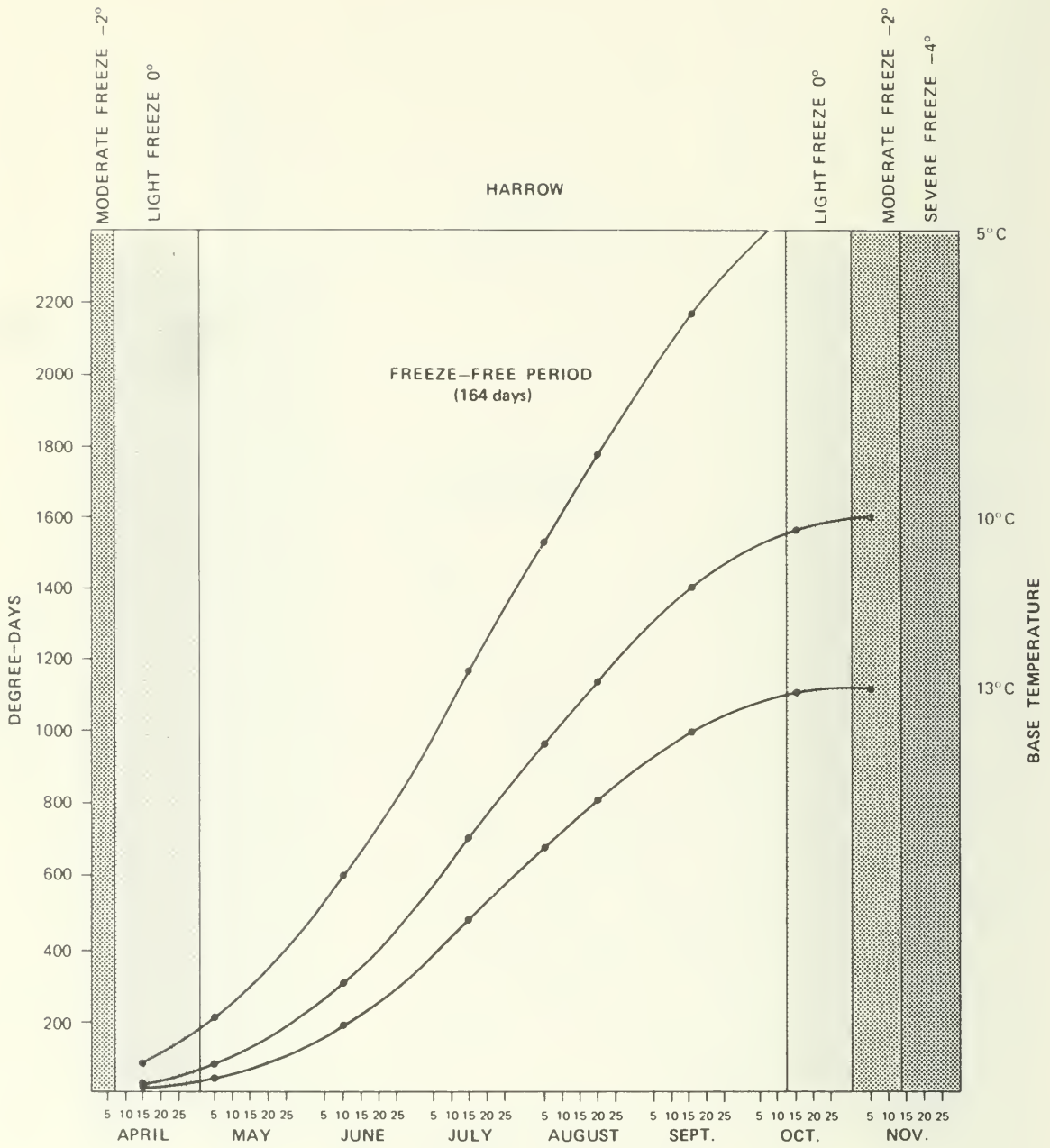



Fig. 6. Average seasonal growing degree-day accumulations (5, 10, 13°C) and average freeze dates of a given severity at Harrow, Ont.

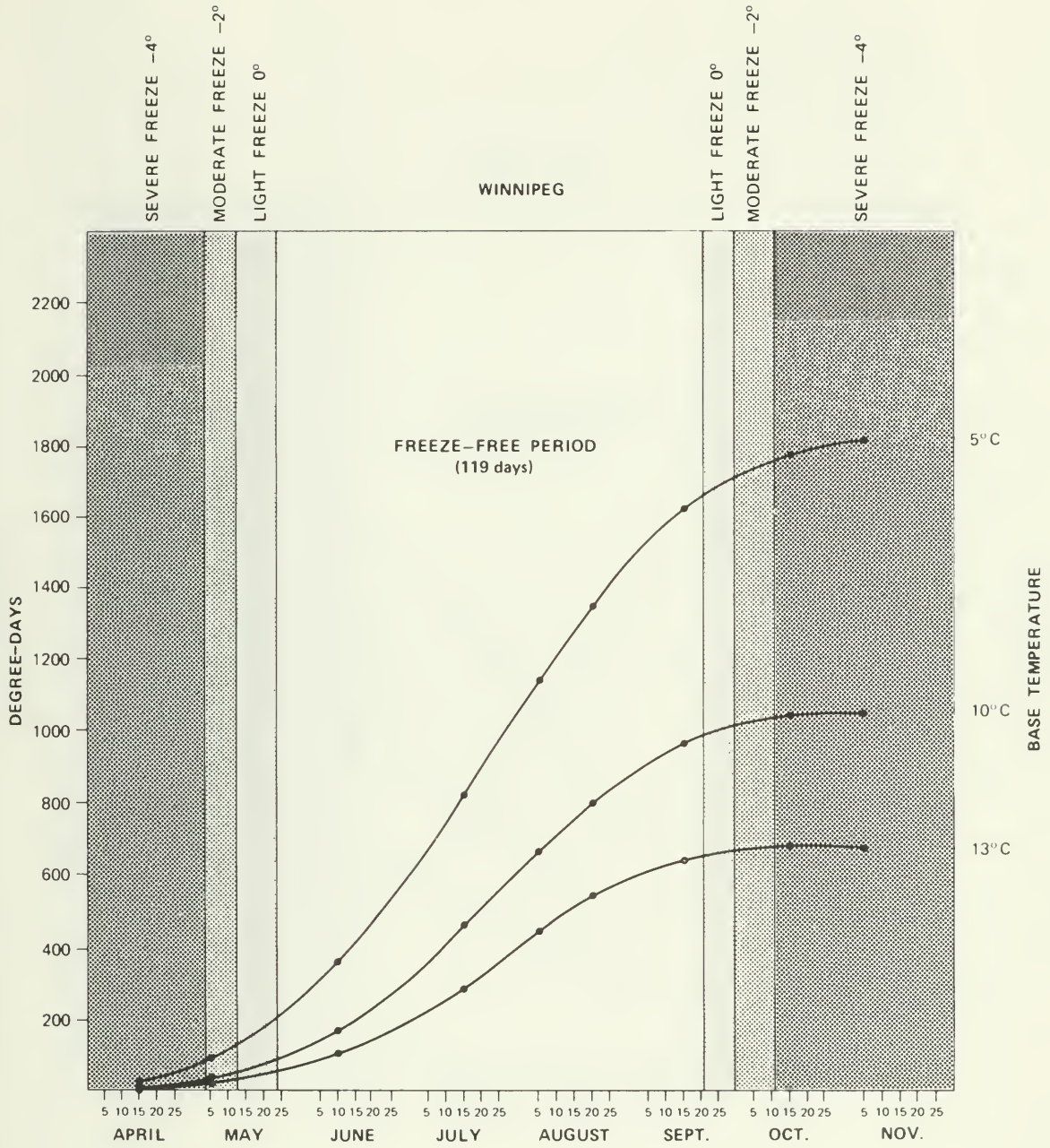



Fig. 7. Average seasonal growing degree-day accumulations (5, 10, 13°C) and average freeze dates of a given severity at Winnipeg, Man.

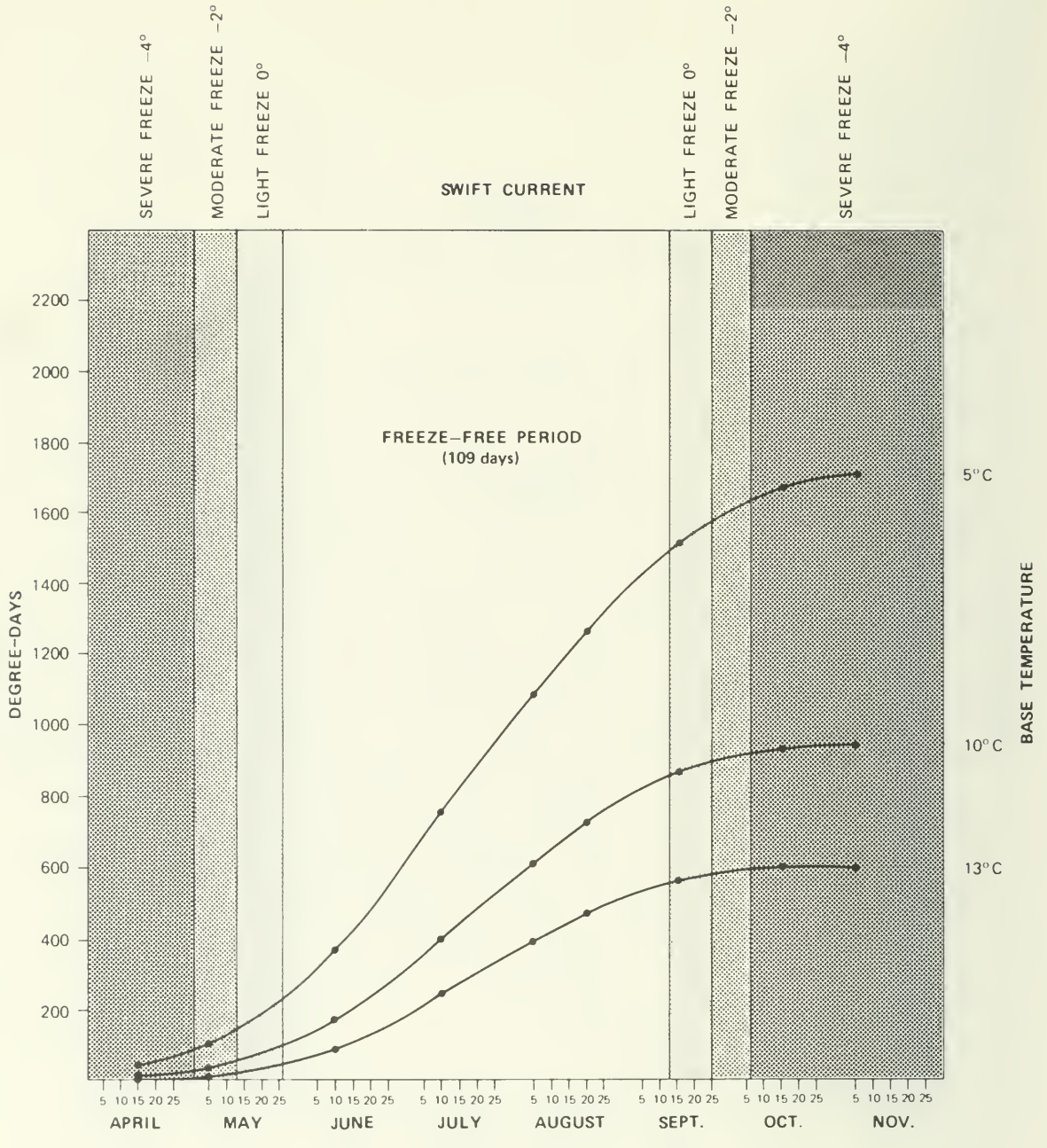



Fig. 8. Average seasonal growing degree-day accumulations (5, 10, 13°C) and average freeze dates of a given severity at Swift Current, Sask.

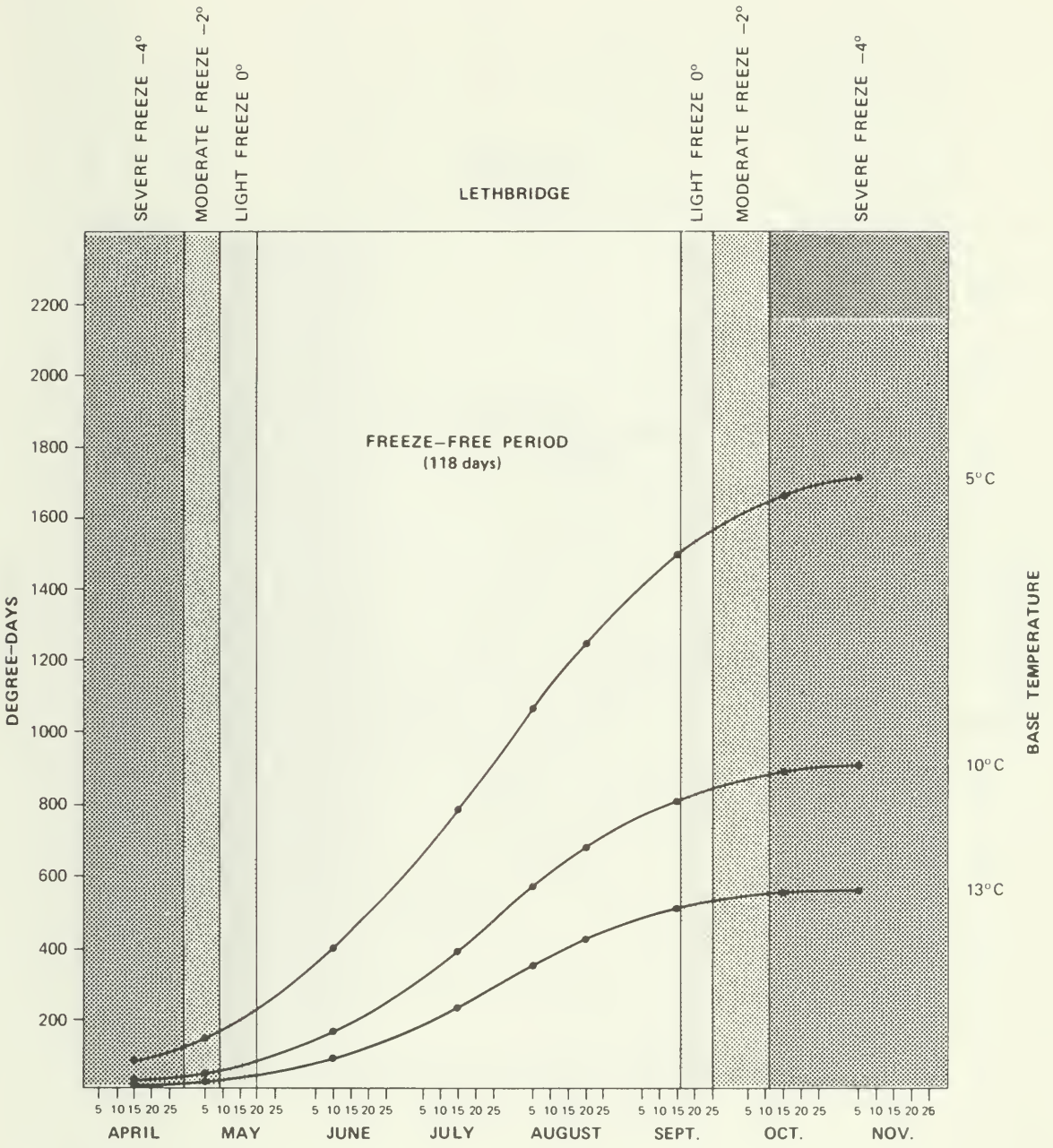



Fig. 9. Average seasonal growing degree-day accumulations (5, 10, 13°C) and average freeze dates of a given severity at Lethbridge, Alta.

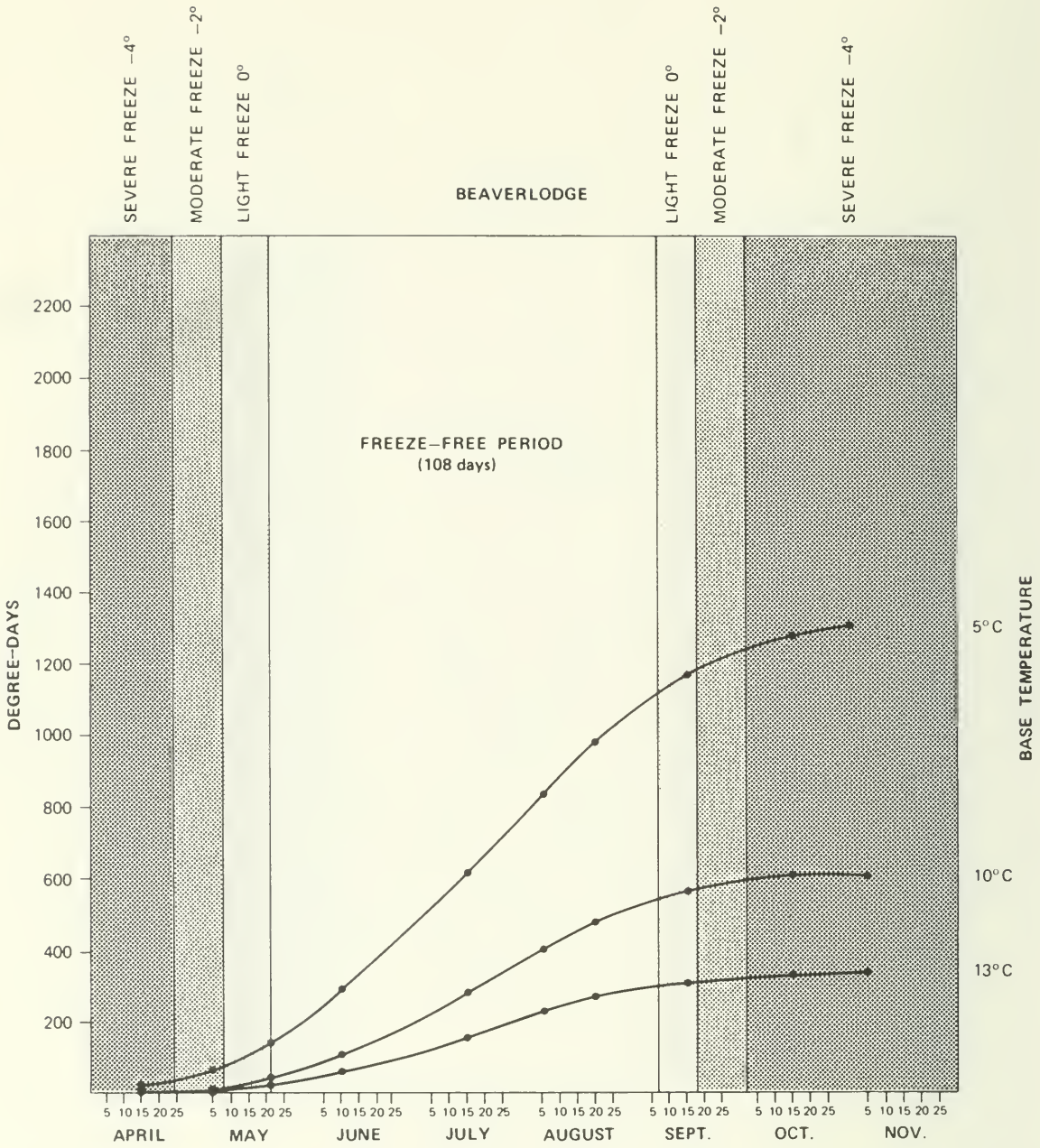



Fig. 10. Average seasonal growing degree-day accumulations (5, 10, 13°C) and average freeze dates of a given severity at Beaverlodge, Alta.

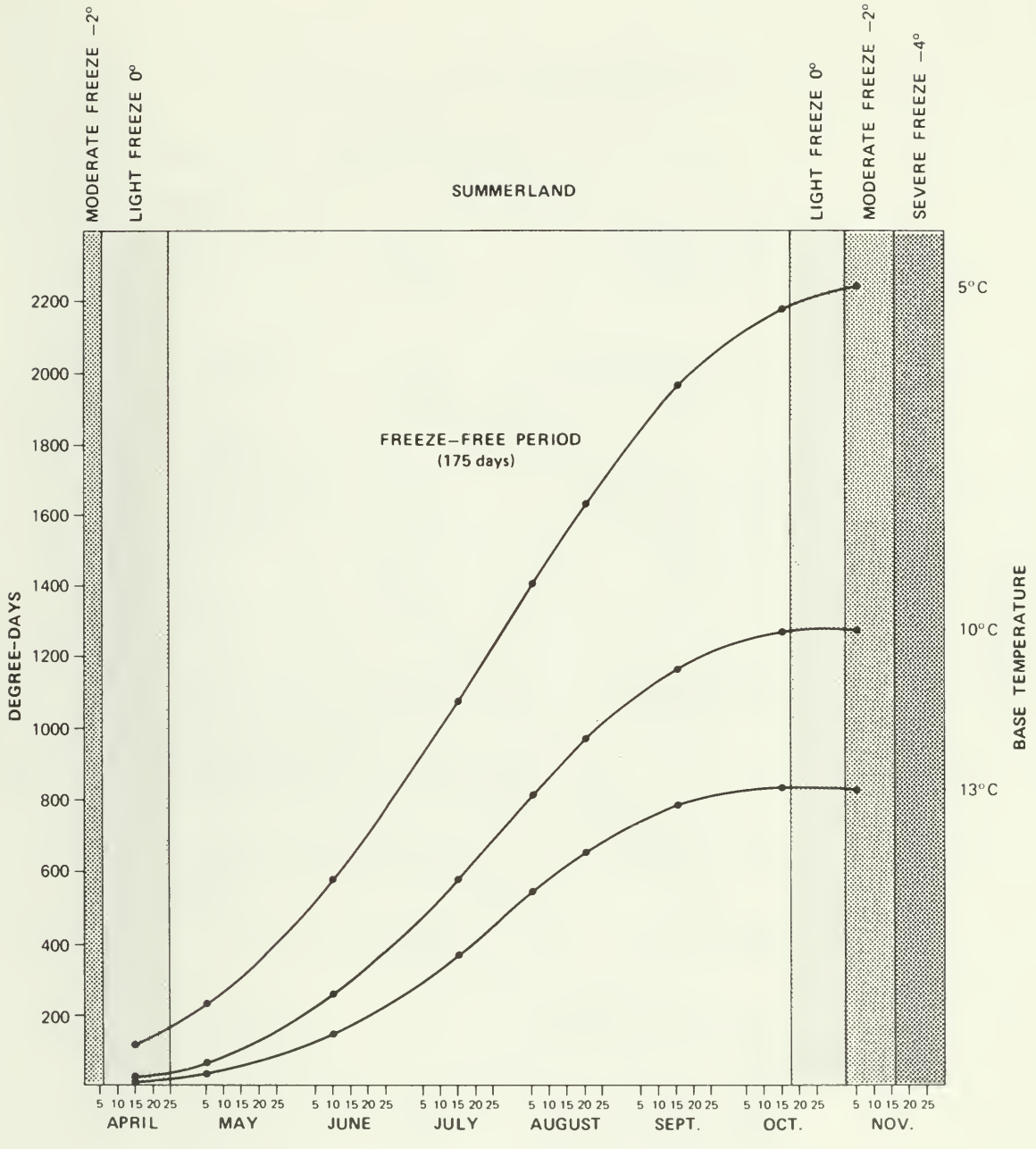



Fig. 11. Average seasonal growing degree-day accumulations (5, 10, 13°C) and average freeze dates of a given severity at Summerland, B.C.

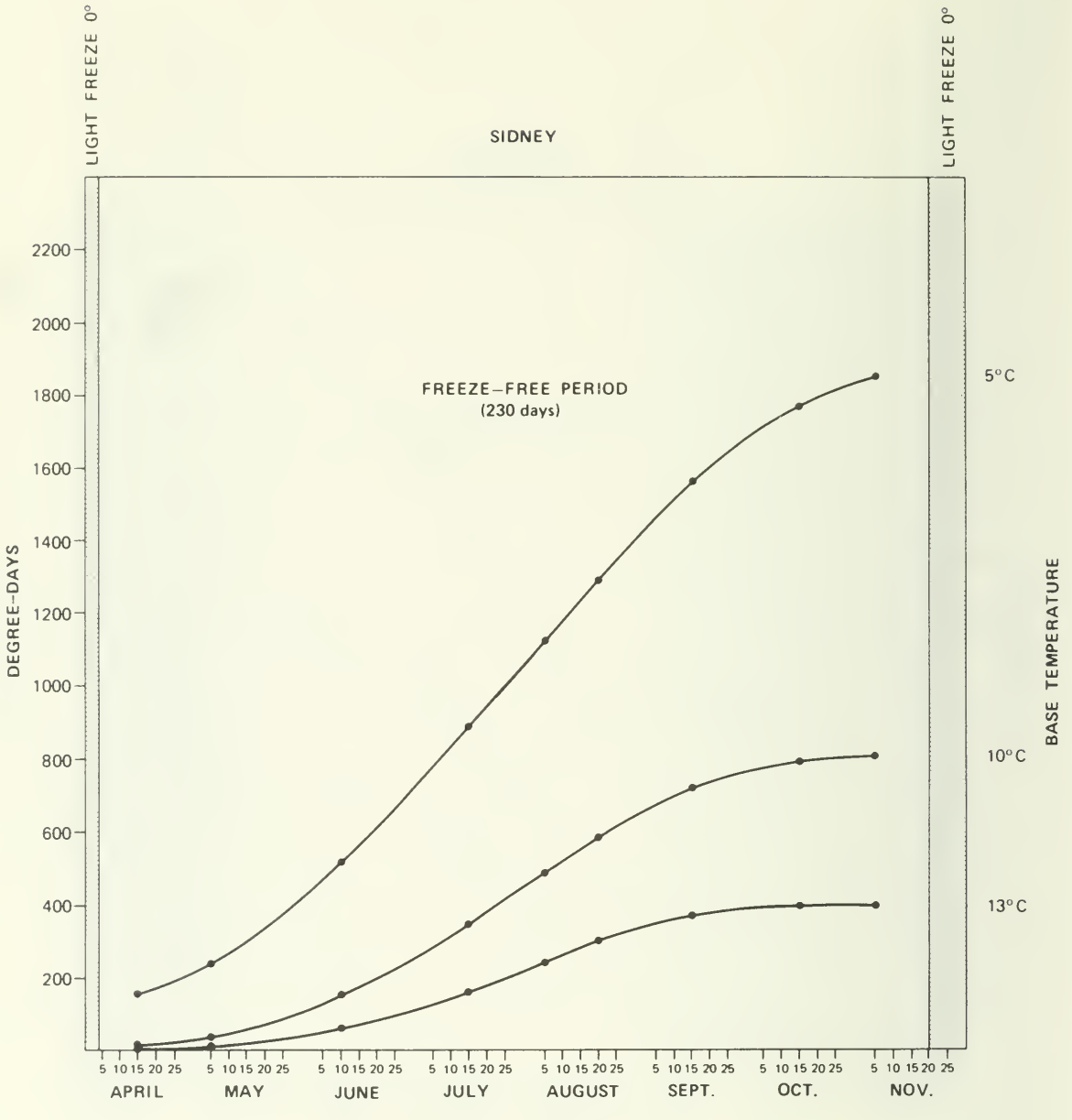



Fig. 12. Average seasonal growing degree-day accumulations (5, 10, 13°C) and average freeze dates of a given severity at Sidney, B.C.

## CONVERSION FACTORS FOR METRIC SYSTEM

| Imperial units | Approximate conversion factor | Results in: | |
|---|---|---|---|
| **LINEAR** | | | |
| inch | x 25 | millimetre | (mm) |
| foot | x 30 | centimetre | (cm) |
| yard | x 0.9 | metre | (m) |
| mile | x 1.6 | kilometre | (km) |
| **AREA** | | | |
| square inch | x 6.5 | square centimetre | ($cm^2$) |
| square foot | x 0.09 | square metre | ($m^2$) |
| acre | x 0.40 | hectare | (ha) |
| **VOLUME** | | | |
| cubic inch | x 16 | cubic centimetre | ($cm^3$) |
| cubic foot | x 28 | cubic decimetre | ($dm^3$) |
| cubic yard | x 0.8 | cubic metre | ($m^3$) |
| fluid ounce | x 28 | millilitre | (mL) |
| pint | x 0.57 | litre | (L) |
| quart | x 1.1 | litre | (L) |
| gallon | x 4.5 | litre | (L) |
| **WEIGHT** | | | |
| ounce | x 28 | gram | (g) |
| pound | x 0.45 | kilogram | (kg) |
| short ton (2000 lb) | x 0.9 | tonne | (t) |
| **TEMPERATURE** | | | |
| degrees Fahrenheit | (°F-32) x 0.56 or (°F-32) x 5/9 | degrees Celsius | (°C) |
| **PRESSURE** | | | |
| pounds per square inch | x 6.9 | kilopascal | (kPa) |
| **POWER** | | | |
| horsepower | x 746 | watt | (W) |
| | x 0.75 | kilowatt | (kW) |
| **SPEED** | | | |
| feet per second | x 0.30 | metres per second | (m/s) |
| miles per hour | x 1.6 | kilometres per hour | (km/h) |
| **AGRICULTURE** | | | |
| gallons per acre | x 11.23 | litres per hectare | (L/ha) |
| quarts per acre | x 2.8 | litres per hectare | (L/ha) |
| pints per acre | x 1.4 | litres per hectare | (L/ha) |
| fluid ounces per acre | x 70 | millilitres per hectare | (mL/ha) |
| tons per acre | x 2.24 | tonnes per hectare | (t/ha) |
| pounds per acre | x 1.12 | kilograms per hectare | (kg/ha) |
| ounces per acre | x 70 | grams per hectare | (g/ha) |
| plants per acre | x 2.47 | plants per hectare | (plants/ha) |

Canada